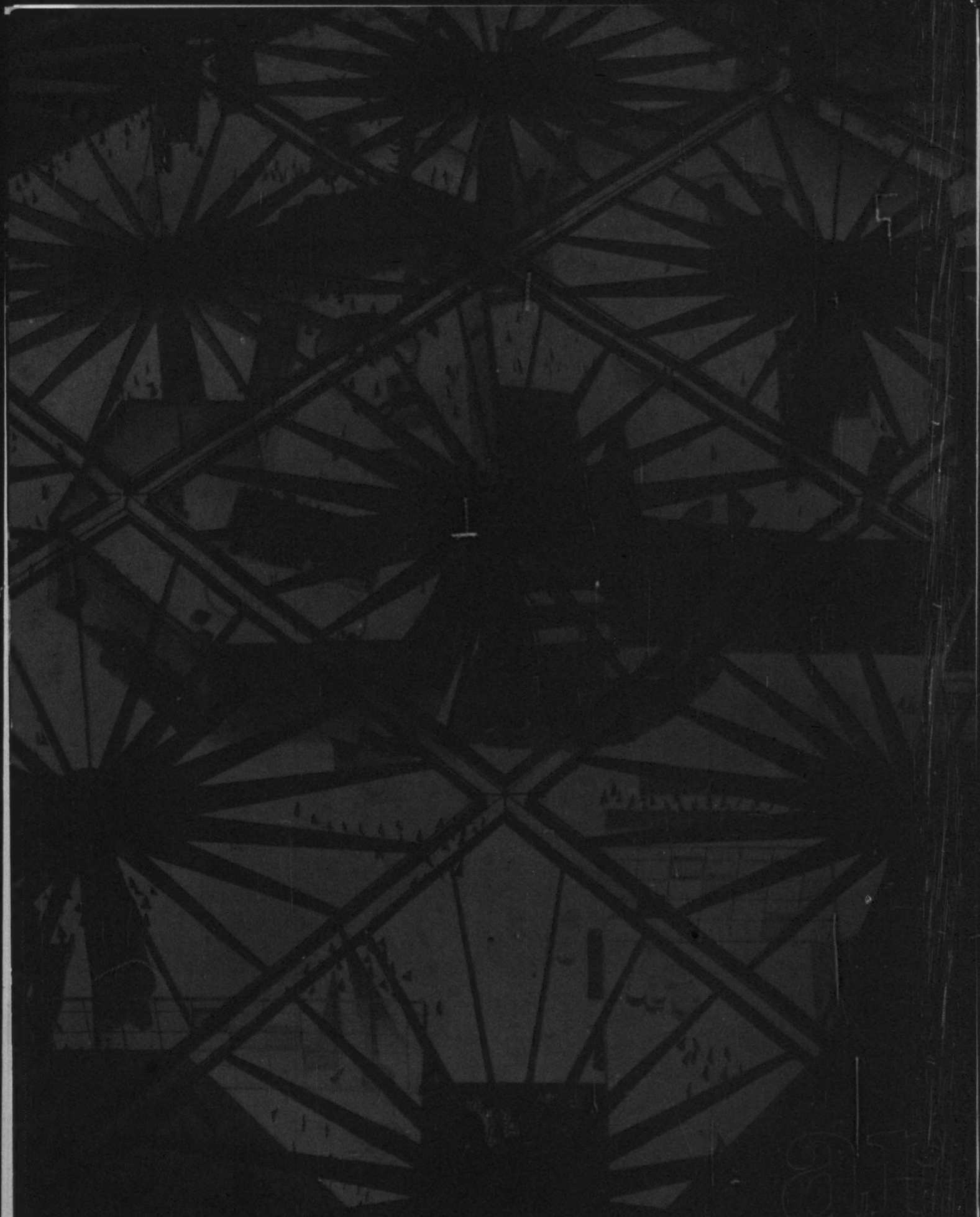

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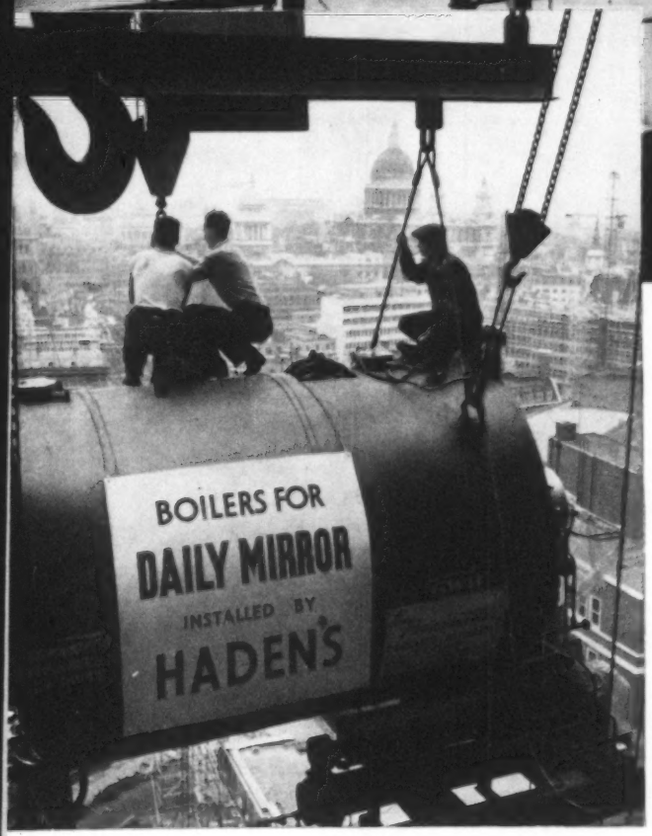

General View: Shows main press hall, 2nd, 3rd, and 4th basements. The area will be mechanically ventilated and the necessary ductwork and diffusers are visible. (Note the integration of the ductwork with press machinery, high level lifting beams, lighting and newspaper conveyors which pass through circular holes in the ceiling.) *Inset:* A boiler reaches the 11th floor.

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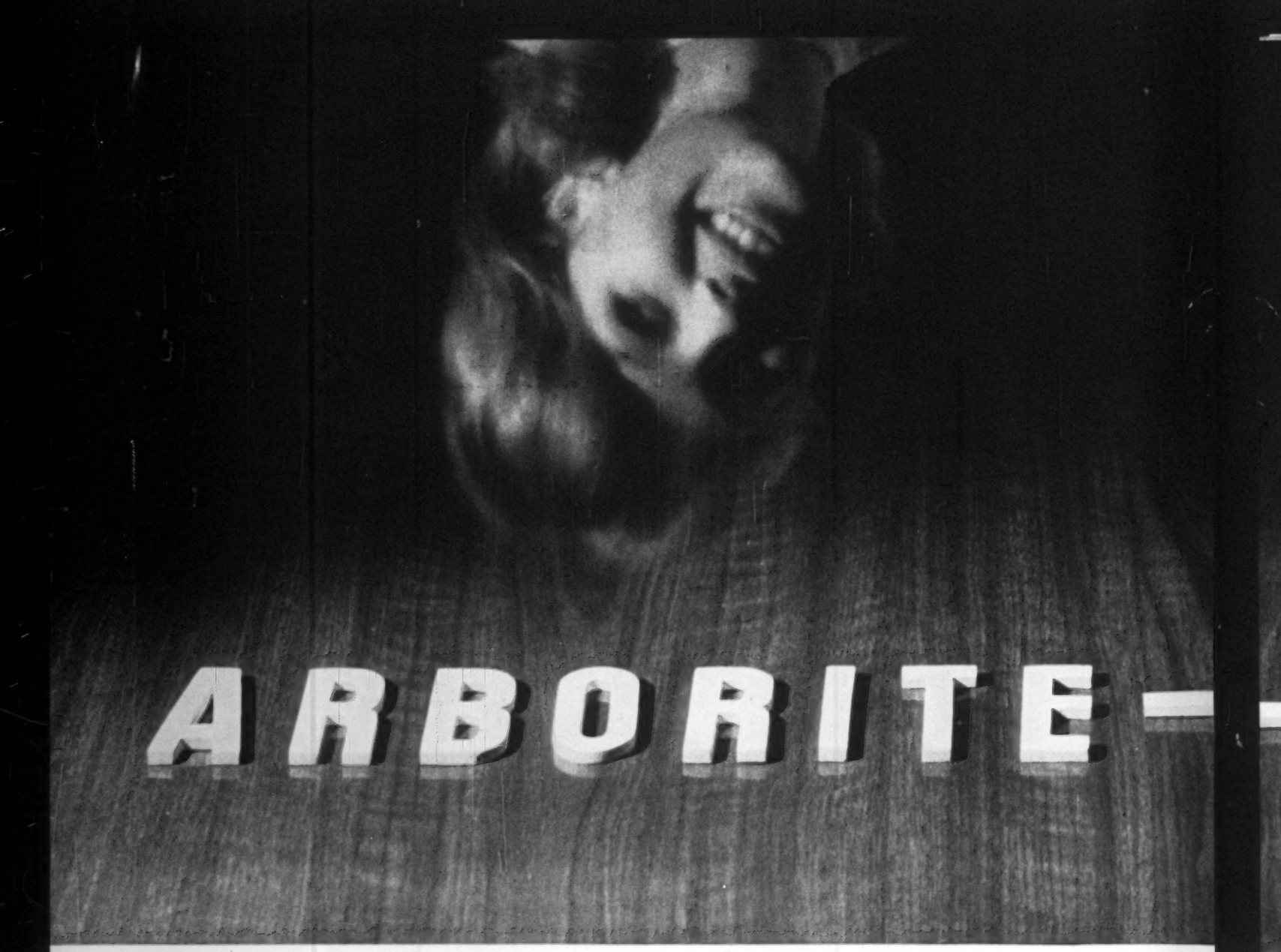

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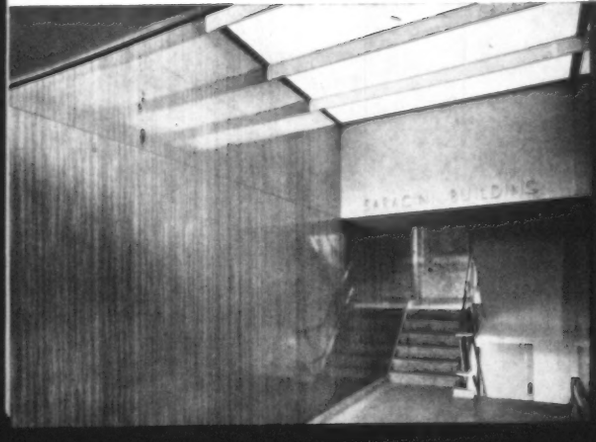

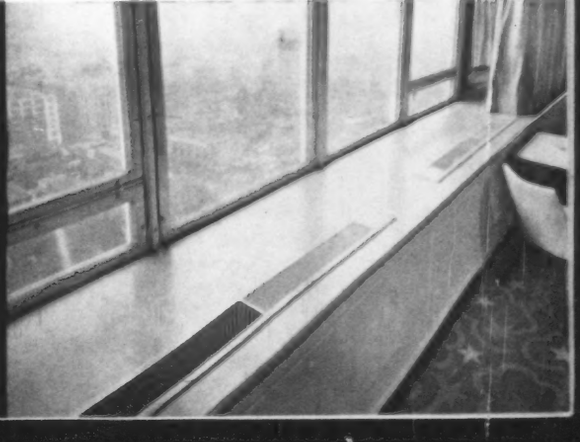

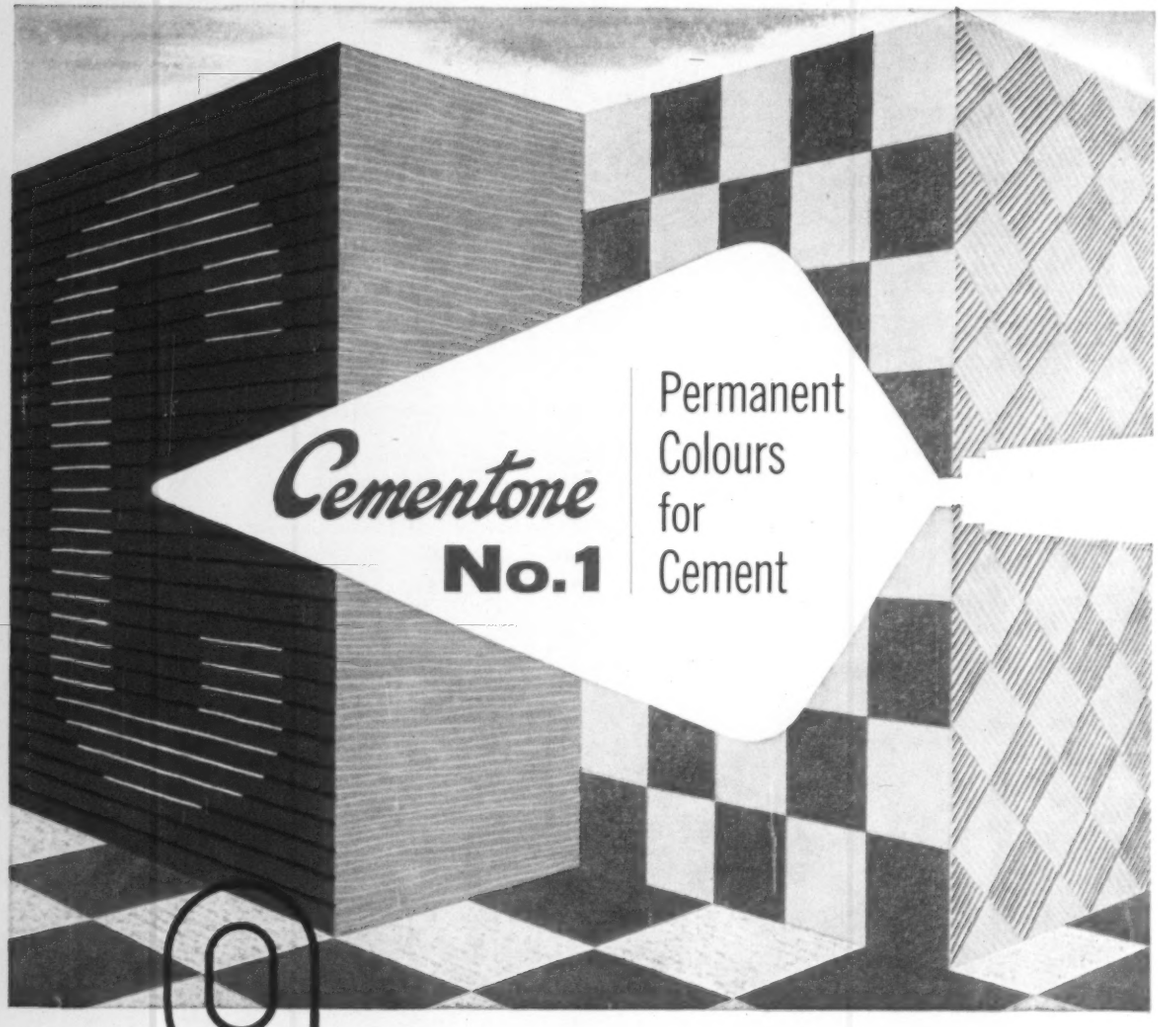

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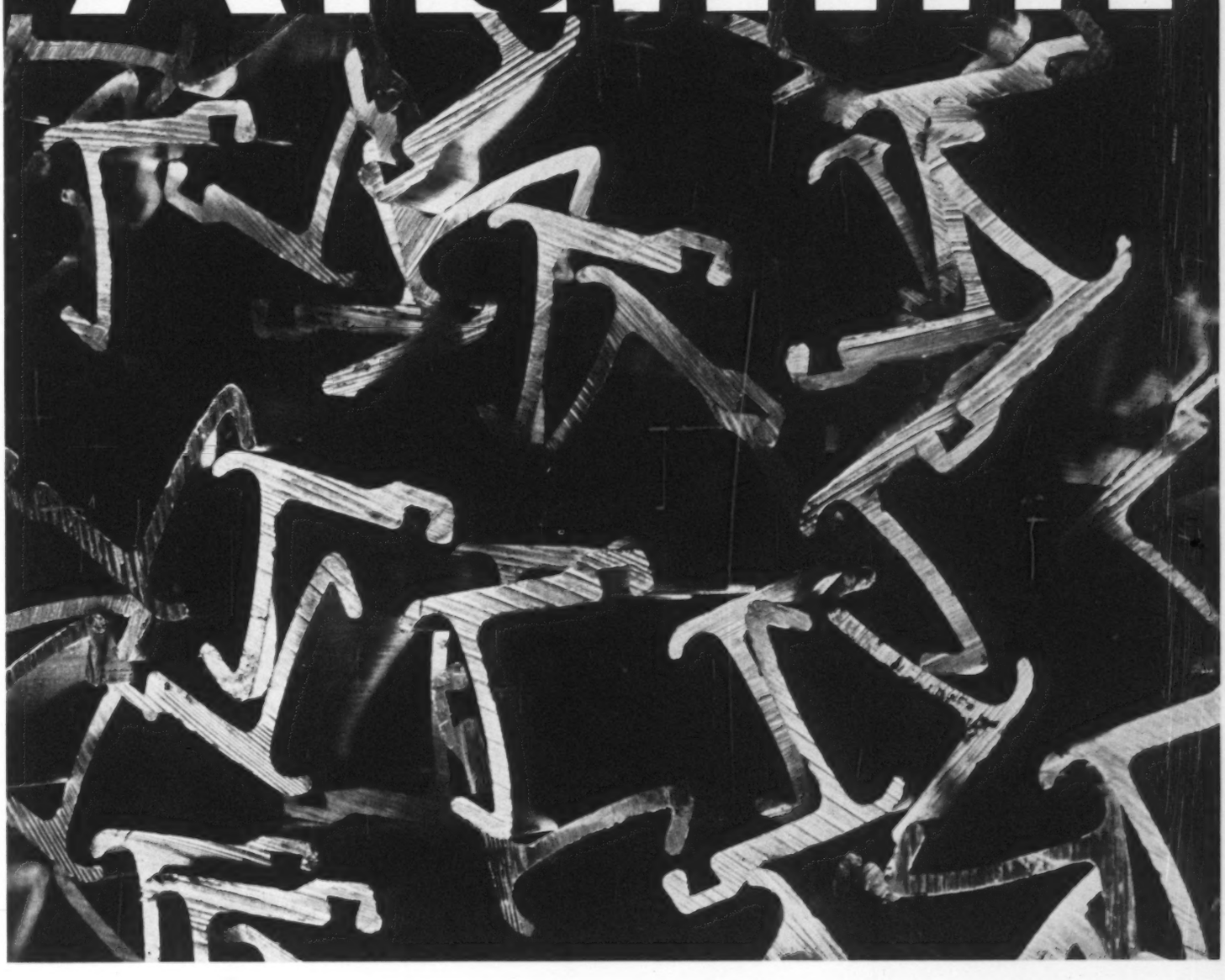

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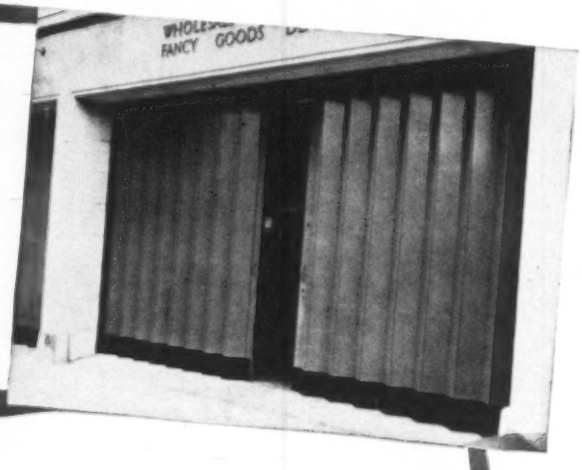

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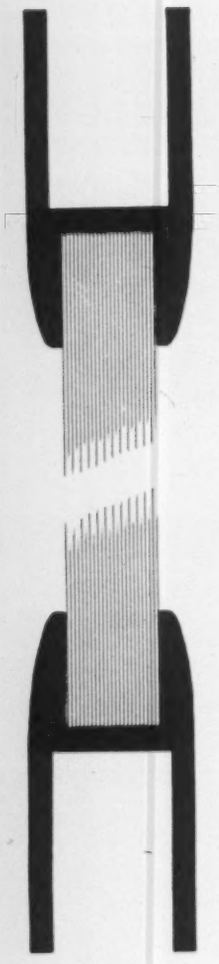

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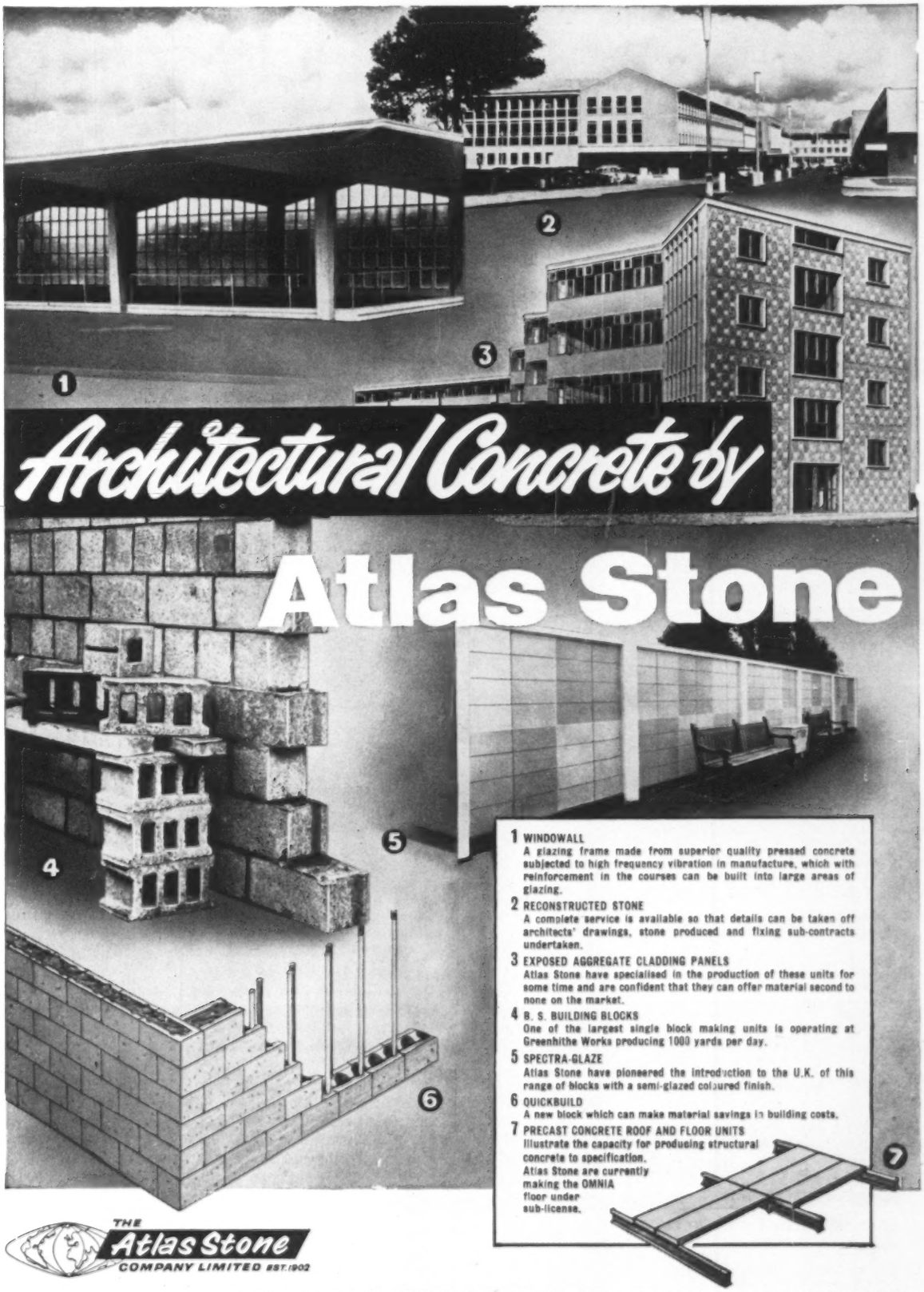

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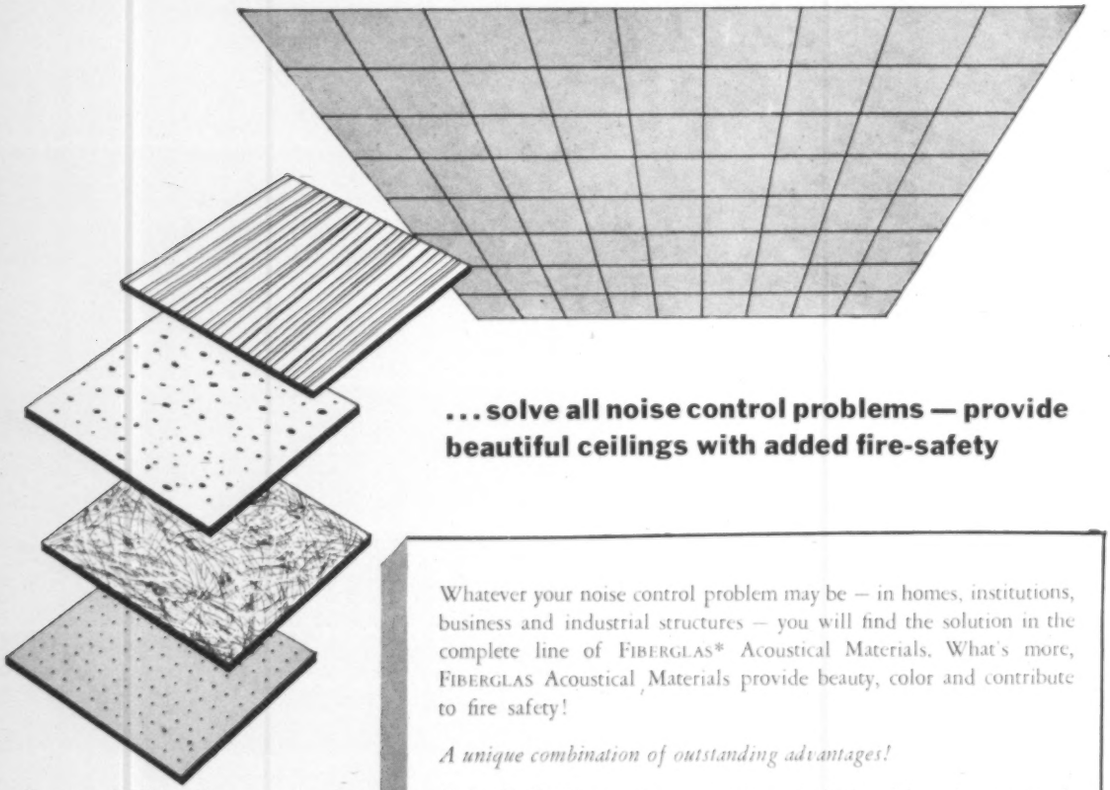

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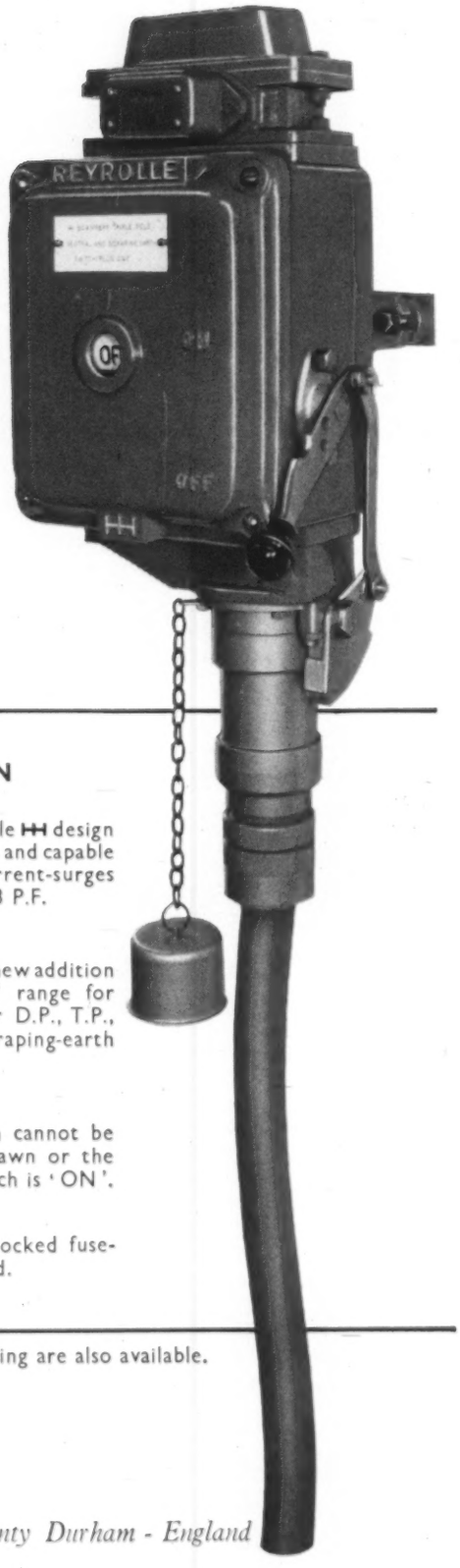

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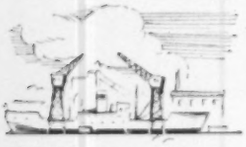

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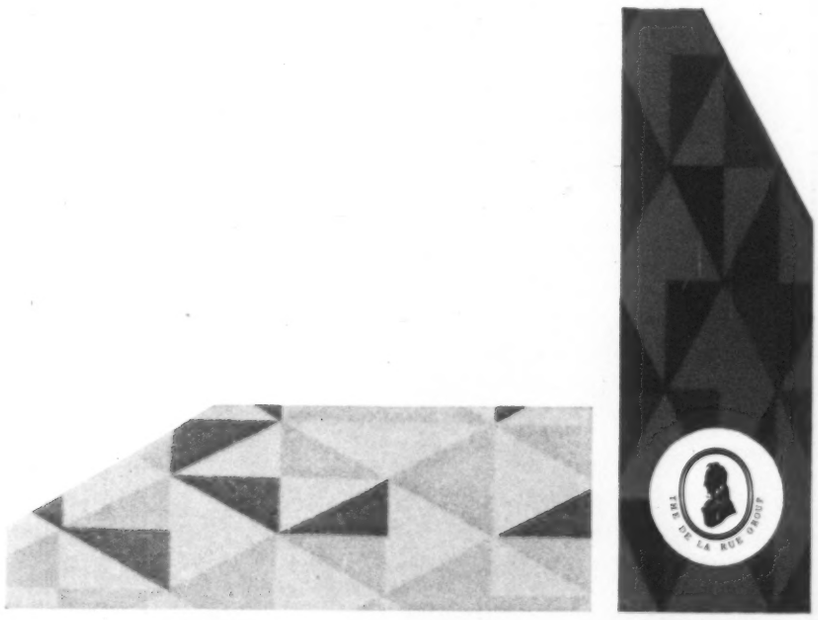

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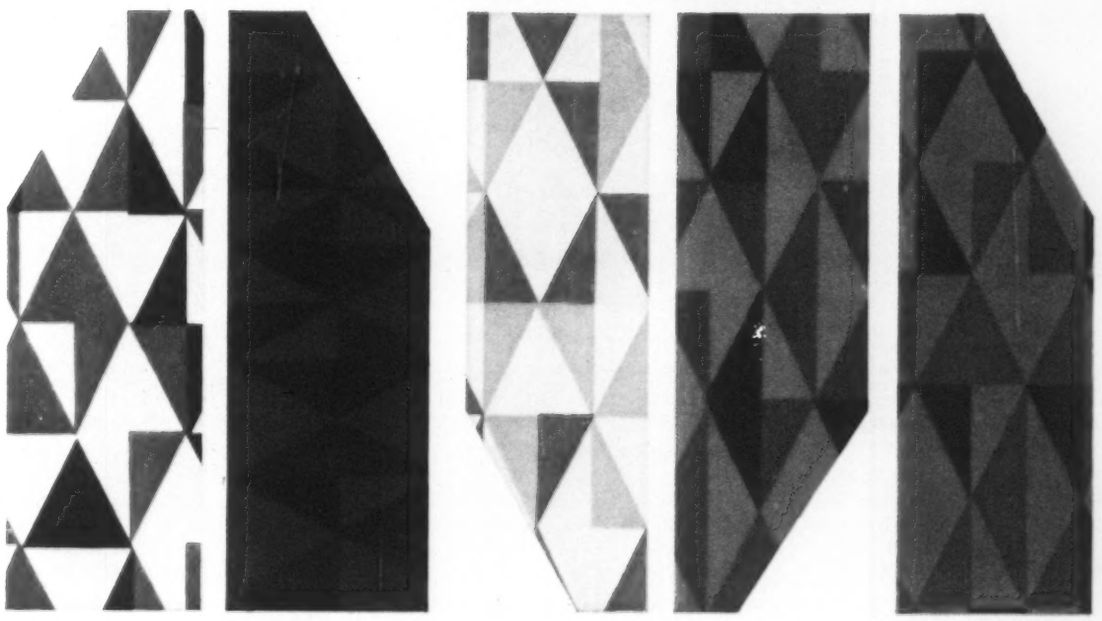

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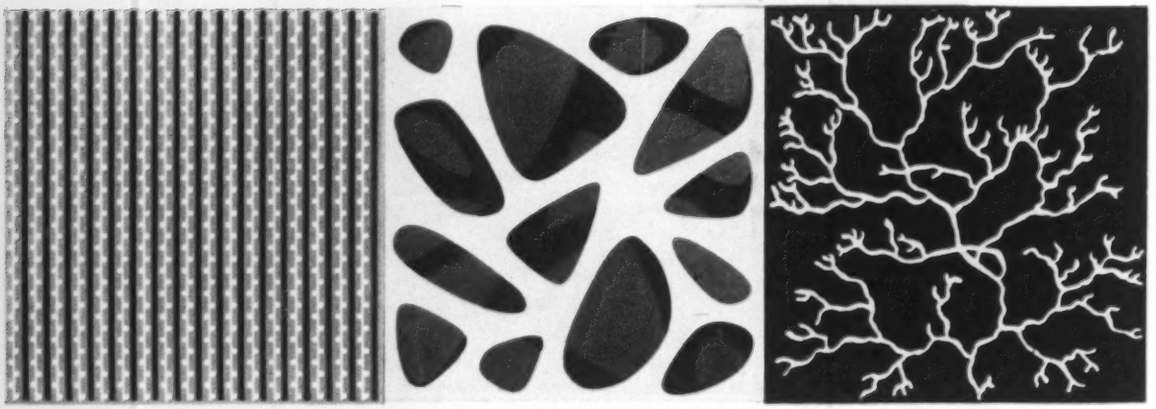

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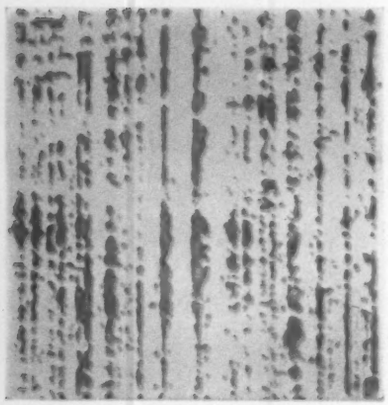

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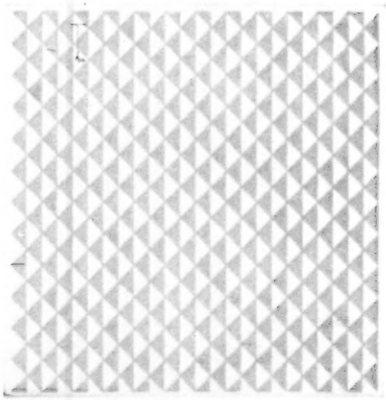

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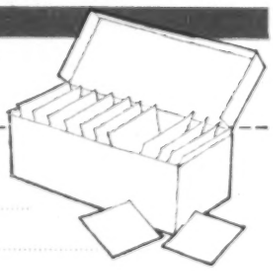

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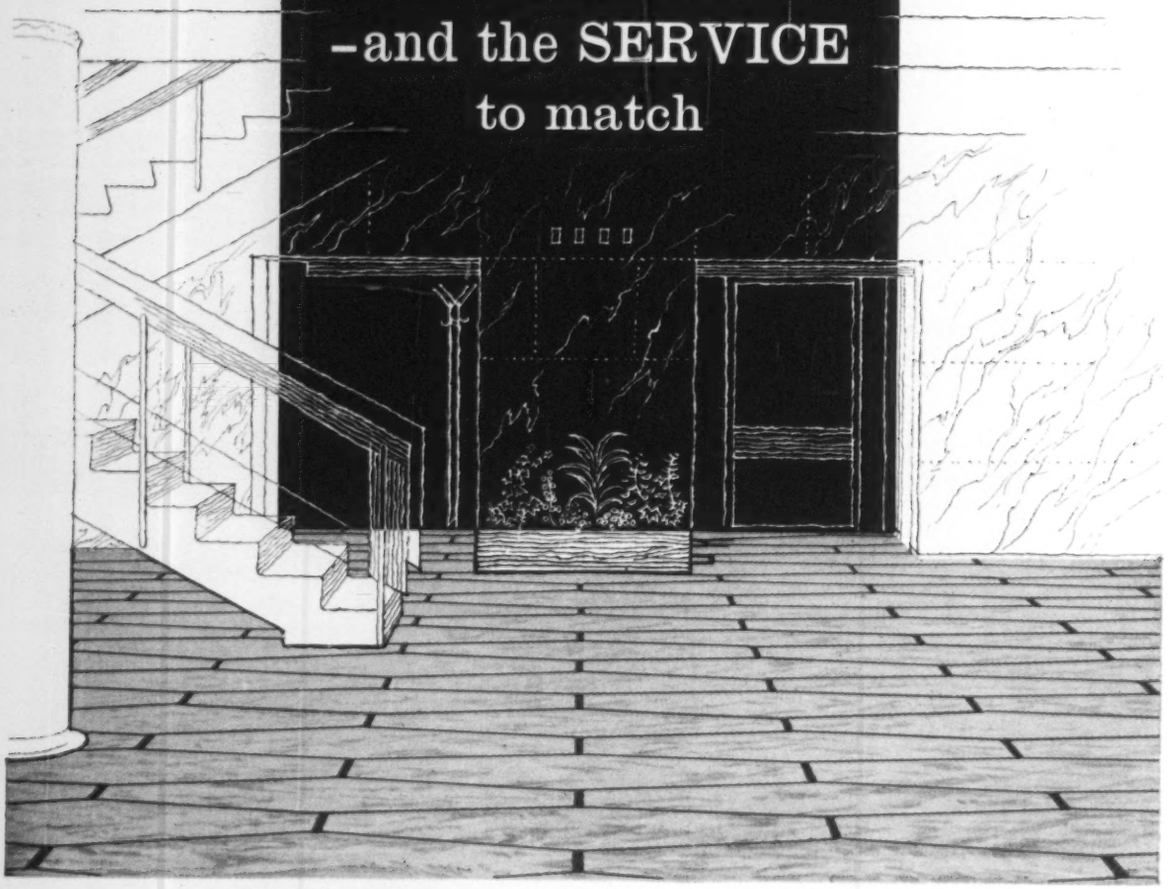

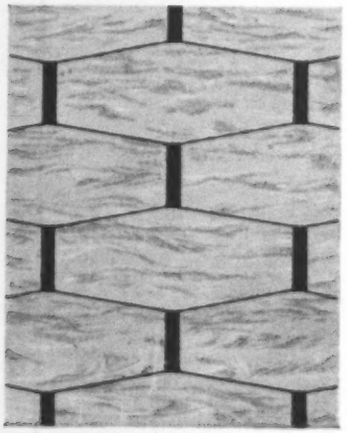

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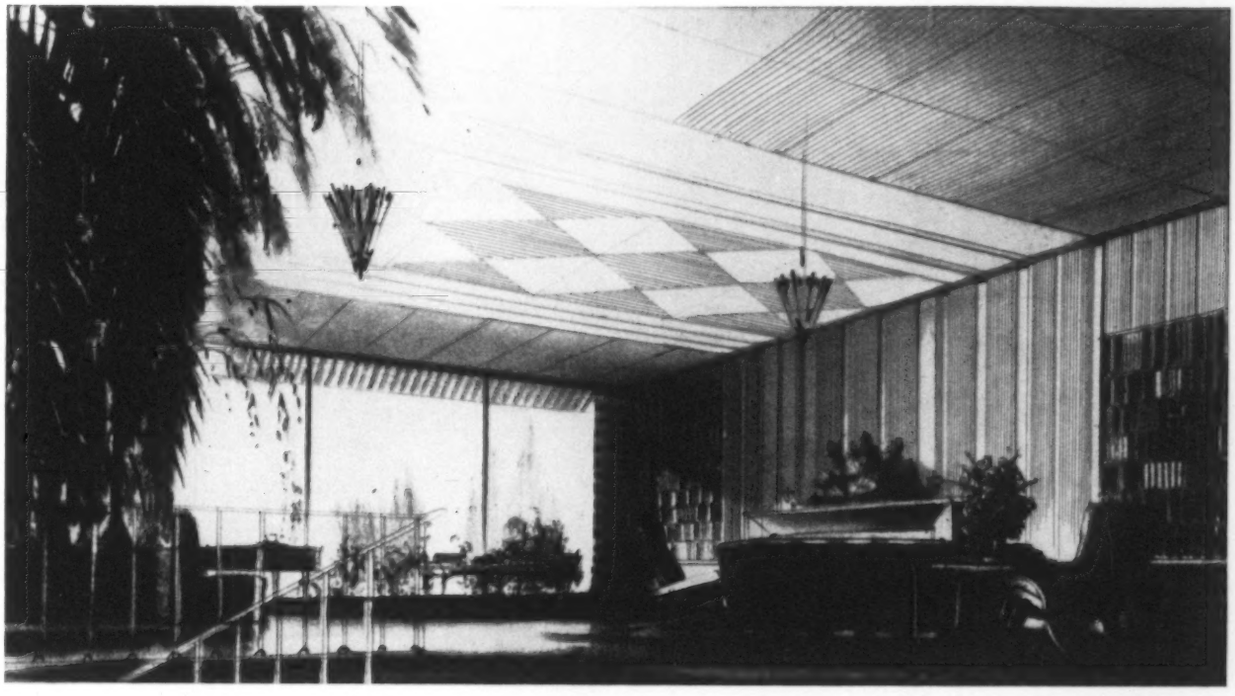

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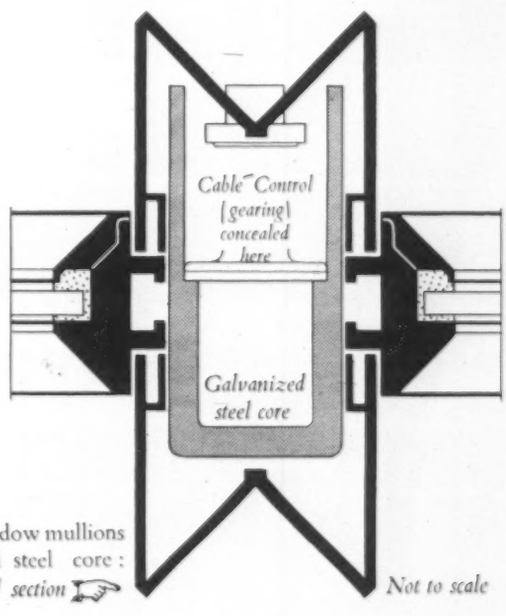

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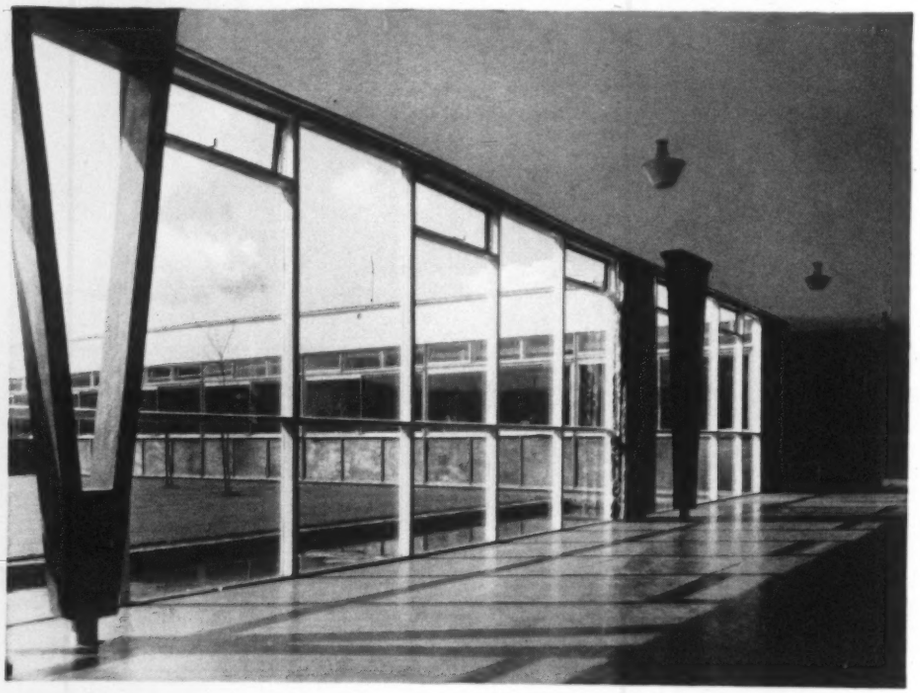
SMETHWICK, BIRMINGHAM
LONDON: 17 BERNERS ST., W.1

The aluminium individual windows supplied by QUICKTHO ENGINEERING LTD. *for Burleigh School, Hatfield, were made entirely of extruded sections. The illustration shows them with Horizontal Sliding Windows and Top Hung Ventilators fitted into timber structure. Building designed by Architects Co-Partnership in collaboration with the County Architect, Hertfordshire.*

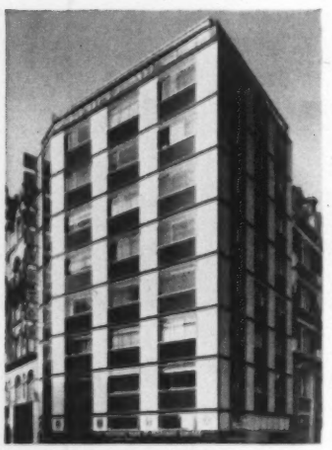


TOMORROW'S **WINDOWS**

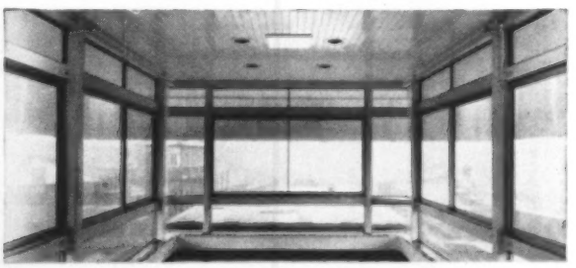
–already taking shape with

ALCAN ALUMINIUM

The windows of today and tomorrow made of ALCAN aluminium will be better than ever before. In their natural clean finish, or colourfully anodised they will present no problems of rust or decay and lessen the cost of maintenance.



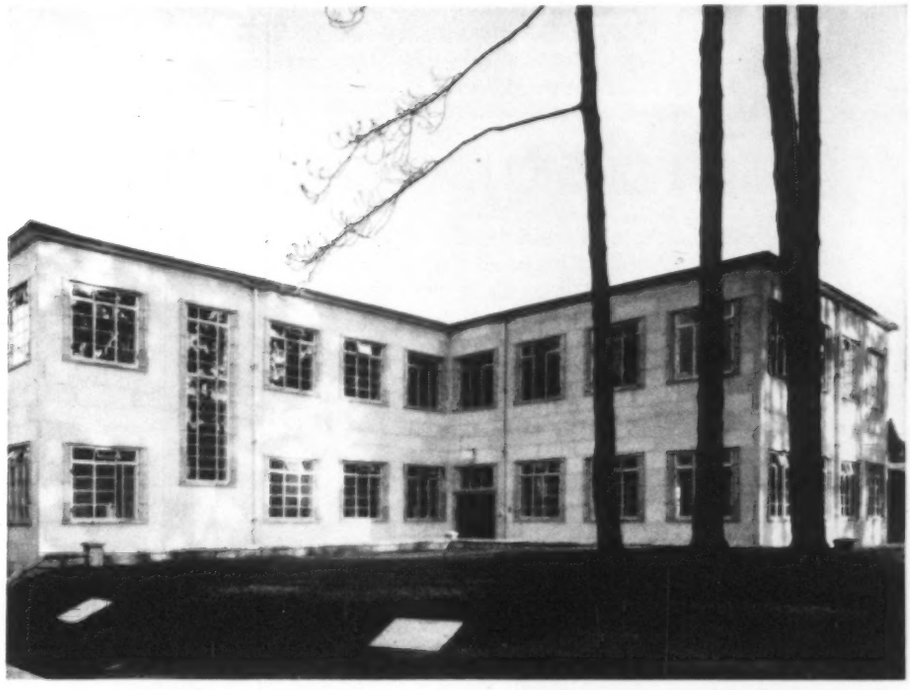
The purpose-made aluminium window units supplied by QUICKTHO ENGINEERING LTD. *for the extension to the Washington Hotel, London, comprise Horizontal Sliding Windows and Top Hung Ventilators designed to accommodate coloured Vitroslab infill panels by Plyglass Ltd.*
Architects:
Bronek Katz & R. Vaughan.



In enclosing the Hackney Downs Signal Box, QUICKTHO ENGINEERING LTD. *have made full use of aluminium extruded sections. Incorporated in the structure are Horizontal Sliding Windows and fixed glazing.*
Architect: H. H. Powell, F.R.I.B.A., *under the general direction of A. K. Terris,* M.I.C.E., *Chief Civil Engineer, British Railways, Eastern Region.*

ALCAN
ALUMINIUM LIMITED OF CANADA

"Alwil" windows, manufactured by ALLAN H. WILLIAMS LTD., *blend ideally with clean light rural surroundings in the new Research and Development Department of The Distillers Co. Ltd., at Epsom.*



To the architect and designer

ALCAN aluminium means:

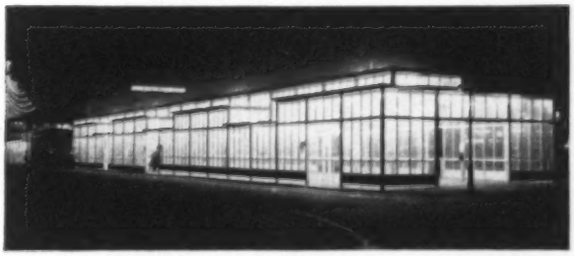
- *Freedom to design outside the limitations of traditional raw materials*
- *One-piece hollow extruded sections made to intricately designed shapes never possible before*
- *Windows opening up new horizons in planning and design but right down-to-earth in sheer practicality*

To the building owner or occupier

ALCAN aluminium means:

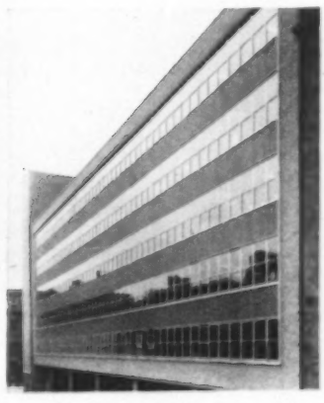
- *No painting necessary* • *No rusting*
- *Resistance to decay and corrosion* • *No warping*
- *No needless weight—windows that are* always *easy to open*
- *Reduced maintenance cost throughout the life of the building*

The advantages of aluminium are at their greatest with ALCAN aluminium. ALCAN, one of the world's largest producers, are specialists in the ingot field. To manufacturers, ALCAN specialisation means a constant, reliable source of aluminium in alloy forms exactly – *consistently* – suited to precise needs. To architects and designers ALCAN specialisation makes available a vast store of technical knowledge and experience ready to be applied to any project, backed up by years of fabricating technique. To the user of every aluminium product ALCAN specialisation means a certainty of quality and the best value that money can buy.



Piccadilly Bus Station, Manchester – a fine example of the use of aluminium windows, which were supplied by ALLAN H. WILLIAMS LTD., COVENTRY. *Architect: Mr. Leonard C. Howitt,* M. ARCH., DIP.T.P., D.P.A., F.R.I.B.A., M.T.P.I.

ALLAN H. WILLIAMS LTD., *supplied more than 500 "Alwil" aluminium double-hung windows, with continuous extruded heads and sills, for Boots Pure Drug Co's new warehouse in Nottingham.*
Architects: Architects Department, Boots Pure Drug Co.



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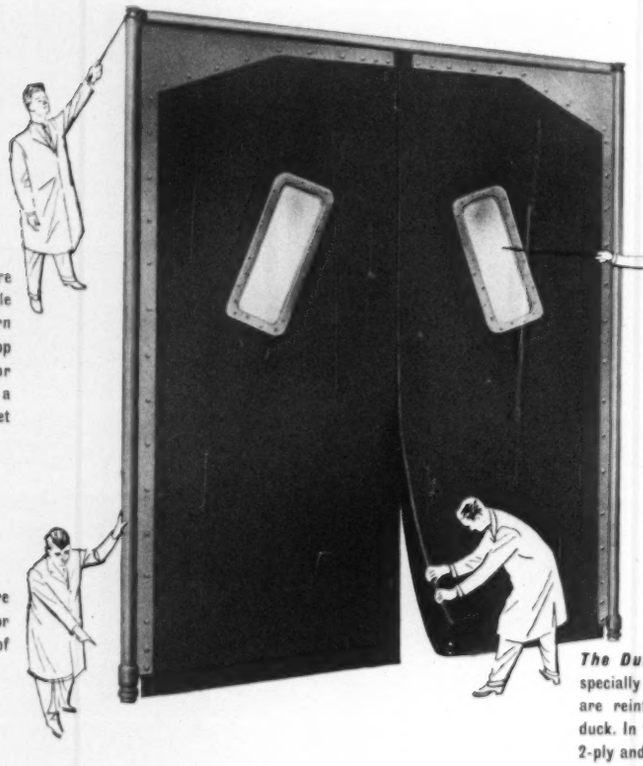
T&W/32

NEWAY

Flexible Doors

by the people who pioneered them



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The ceiling that lights

Architects: Architect's Department, Ministry of Works.

Lumenated Module ceiling for a new-look Post Office

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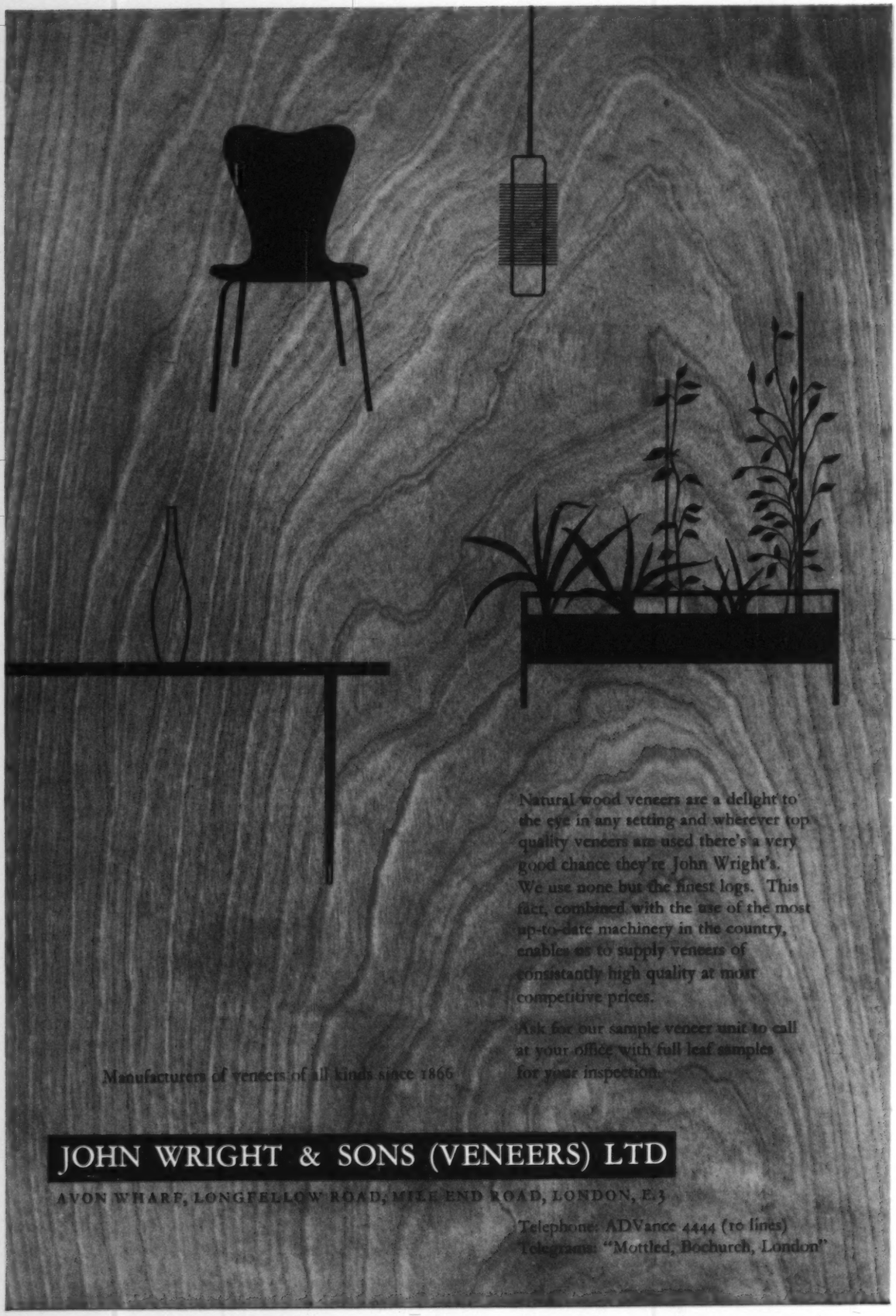
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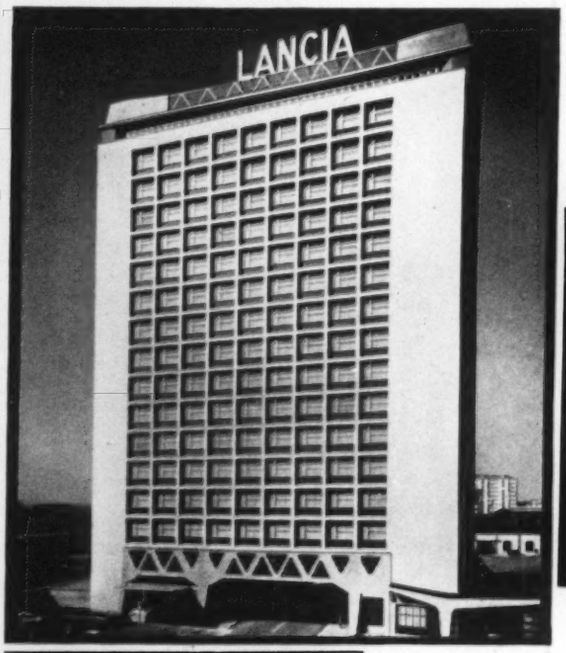
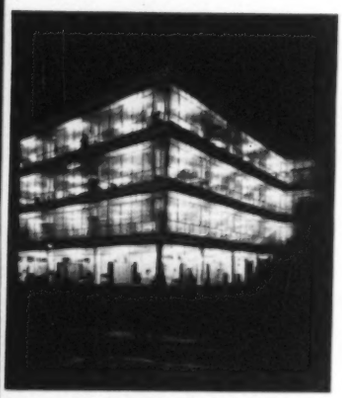


The Lancia Building, Turin, Italy.



Neubert Furnishing Store, Würzburg, W. Germany.

The Thalia Cinema, Rotterdam, Holland.

The Ministry of Agriculture, Brussels, Belgium.

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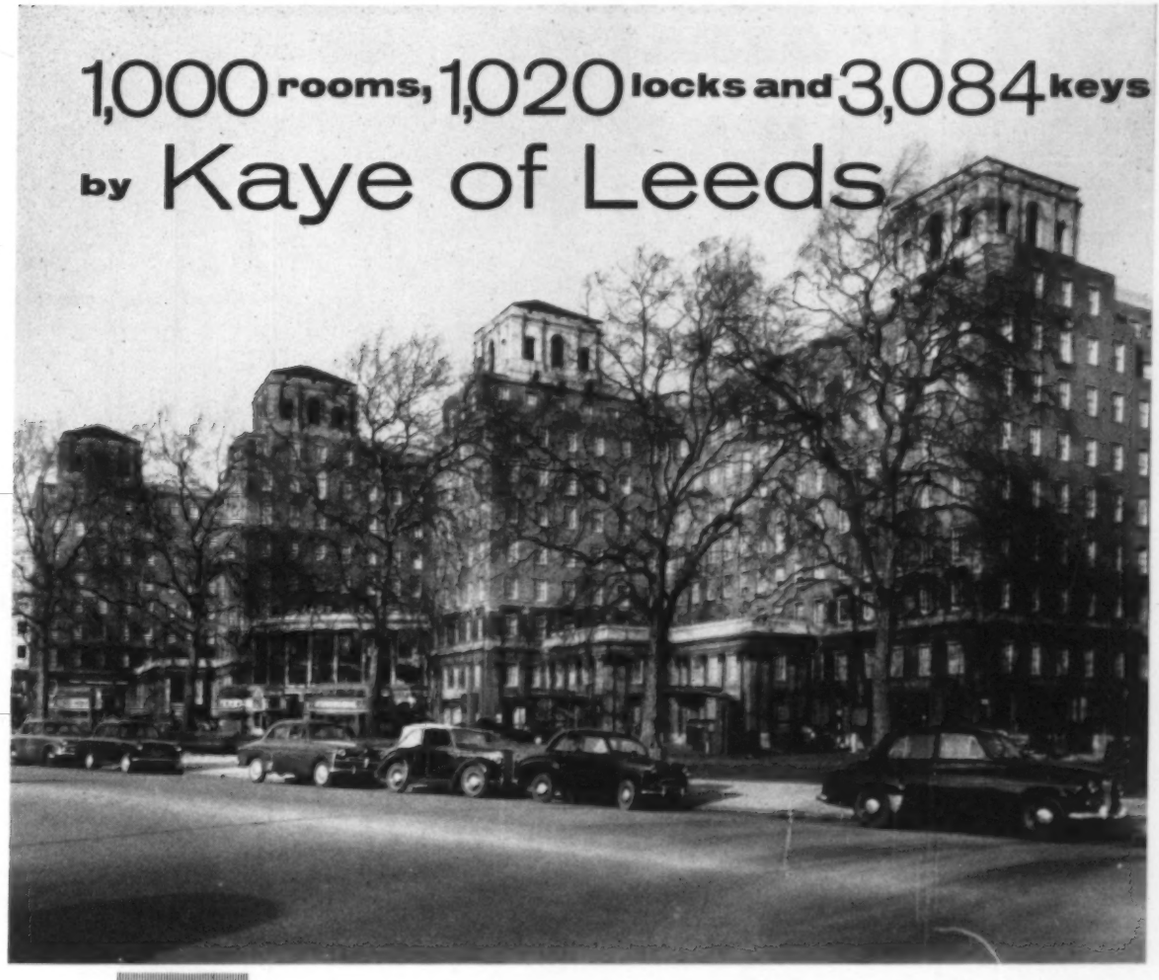

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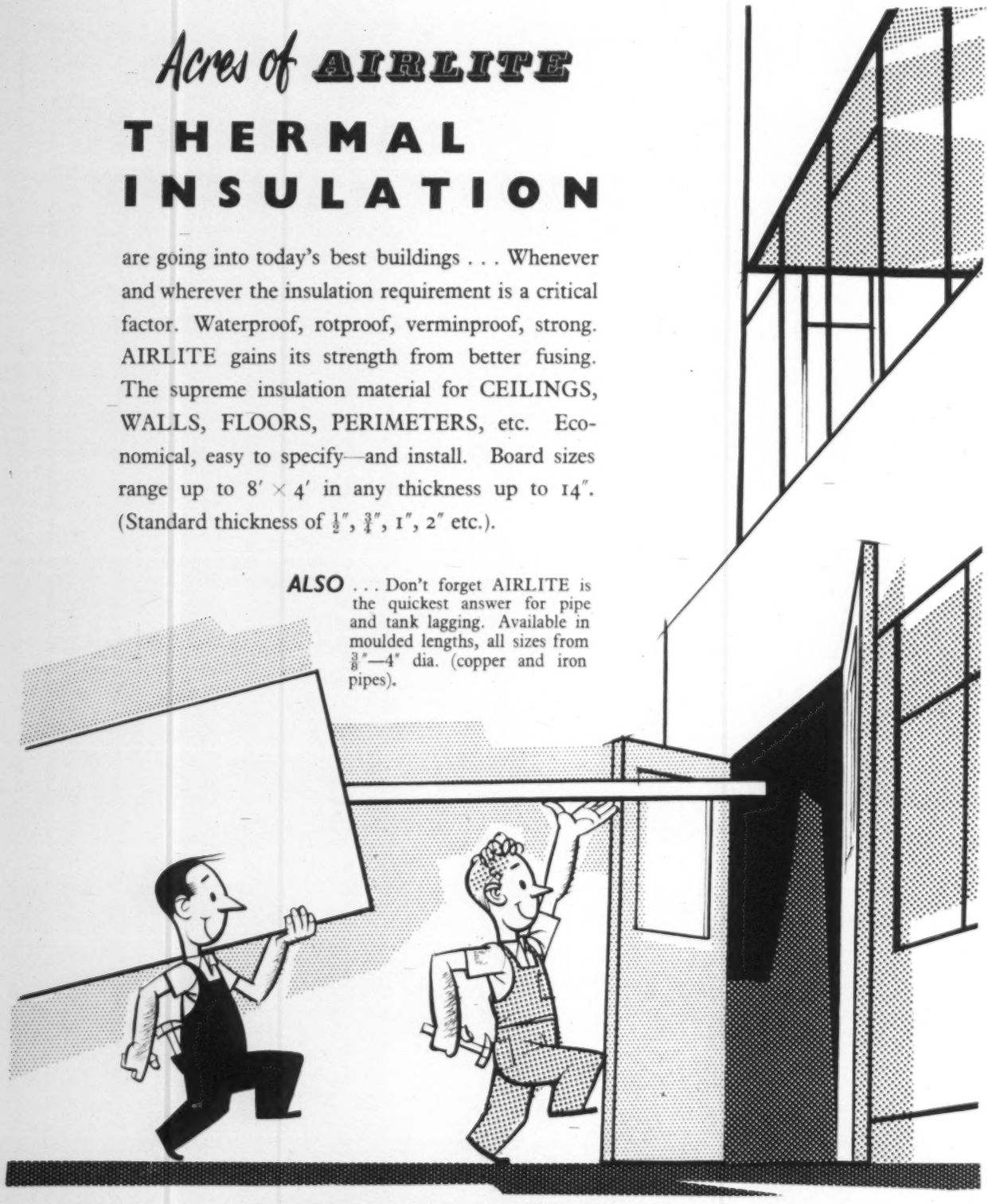

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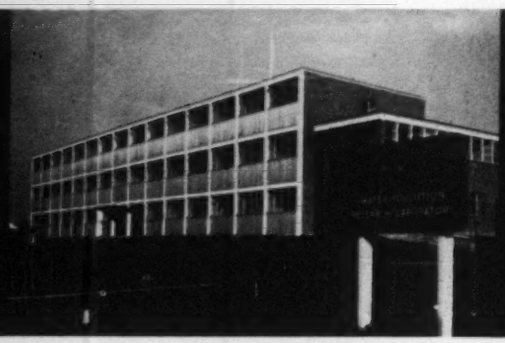
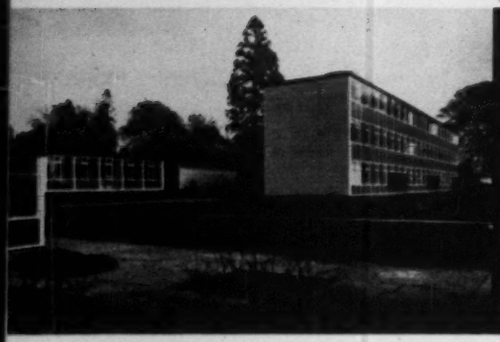
Builders: Harry Neal Ltd.

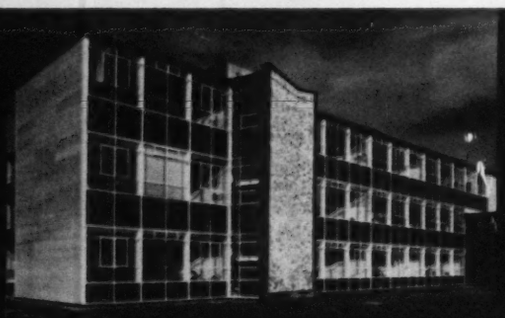




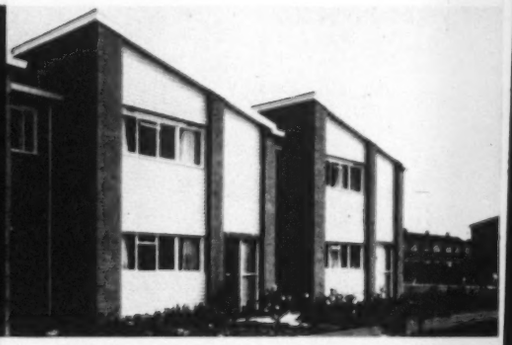
Shephalbury School for Hertfordshire County Council.
County Architect: G.C. Fardell, M.B.E., A.R.I.B.A. (Former County Architect: The late C. H. Aslin, C.B.E., P.P.R.I.B.A.)
Builders: H. C. Janes Ltd.

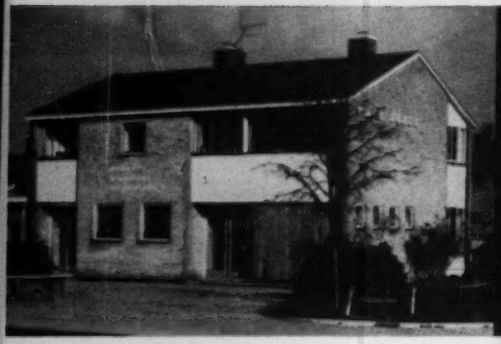
Bandley Hill Housing, Stage IV.
Builders: Robert Marriott & Co. Ltd.

Girls' Grammar School for Hertfordshire County Council.
County Architect: G.C. Fardell, M.B.E., A.R.I.B.A. (Former County Architect: The late C. H. Aslin, C.B.E., P.P.R.I.B.A.)
Builders: Ekins & Co. Ltd.



Housing at Leaves Springs.
Builders: Tersons Ltd.

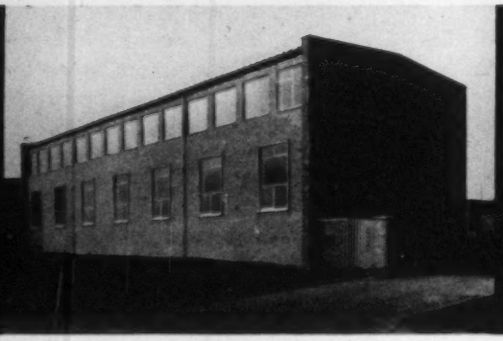




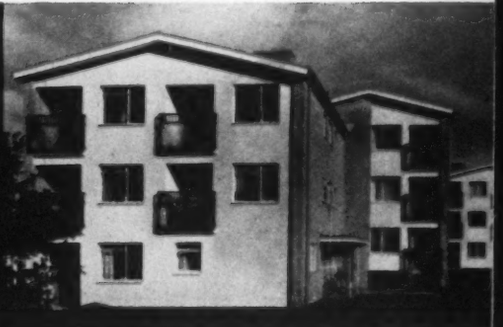
"The Twin Foxes" Public House.
Builders: Tersons Ltd.

Post Office for the Ministry of Works.
Builders: Harry Neal Ltd.

Post Office Engineering Depot for the Ministry of Works.
Designed by The Architects' Department, M.O.W.
Builders: John Willmott & Sons (Hitchin) Ltd.



Housing at Broom Barnes.
Builders: Carlton Contractors Ltd.



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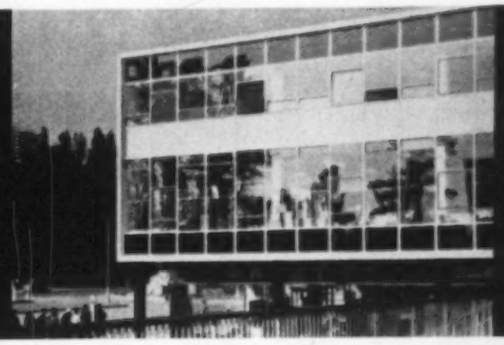


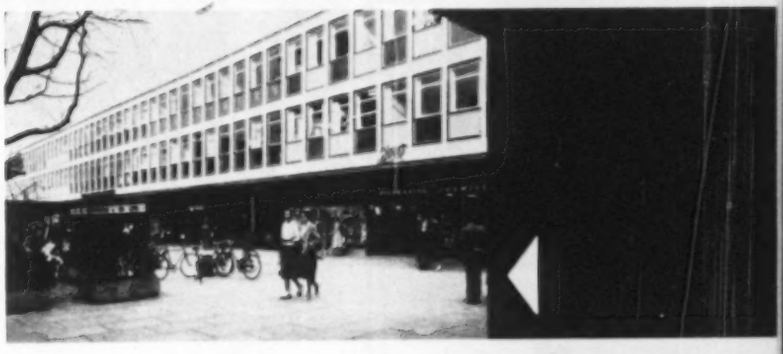
STEVENAGE NEW TOWN

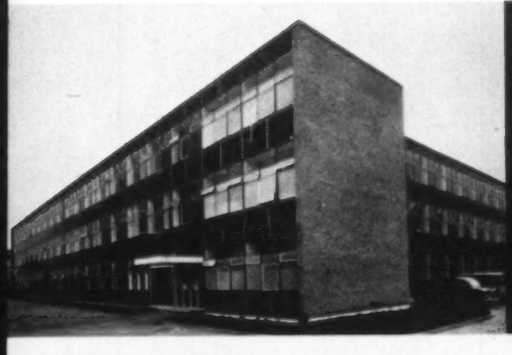
Except where otherwise stated the buildings shown were designed for the Stevenage Development Corporation under the direction of the Chief Architect, L. G. Vincent, C.B.E., A.R.I.B.A., Dip.T.P., A.M.T.P.I.

TOWN CENTRE

A "pedestrian precinct"—the first of its kind in the United Kingdom—was opened by Her Majesty the Queen in April, 1959.

"Joy Ride" sculpture by F. Belsky.





Kodak Ltd., Office Block and Production Area.
Builders: Gilbert-Ash Ltd.

Shops and Flats, Bedwell Community Centre.
Builders: Carlton Contractors Ltd.

CRITTALL

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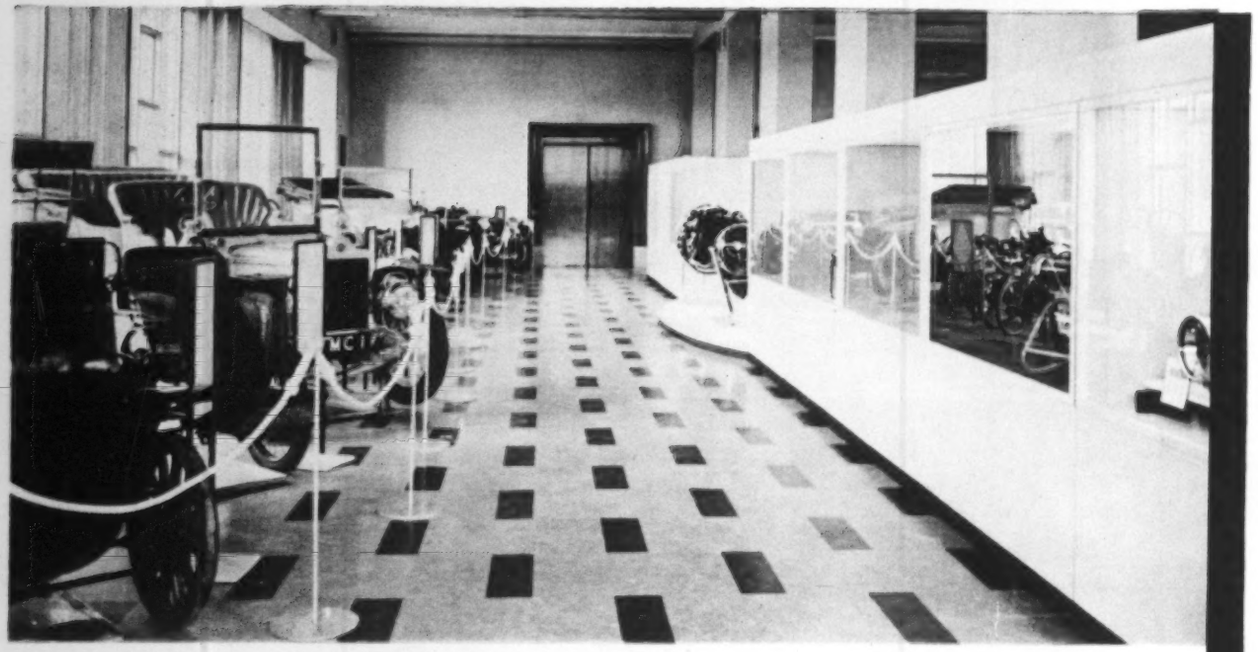

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Architect: Herbert, Son & Sawday, F/A.R.I.B.A. Contractor: Coventry Tile Co. Ltd.

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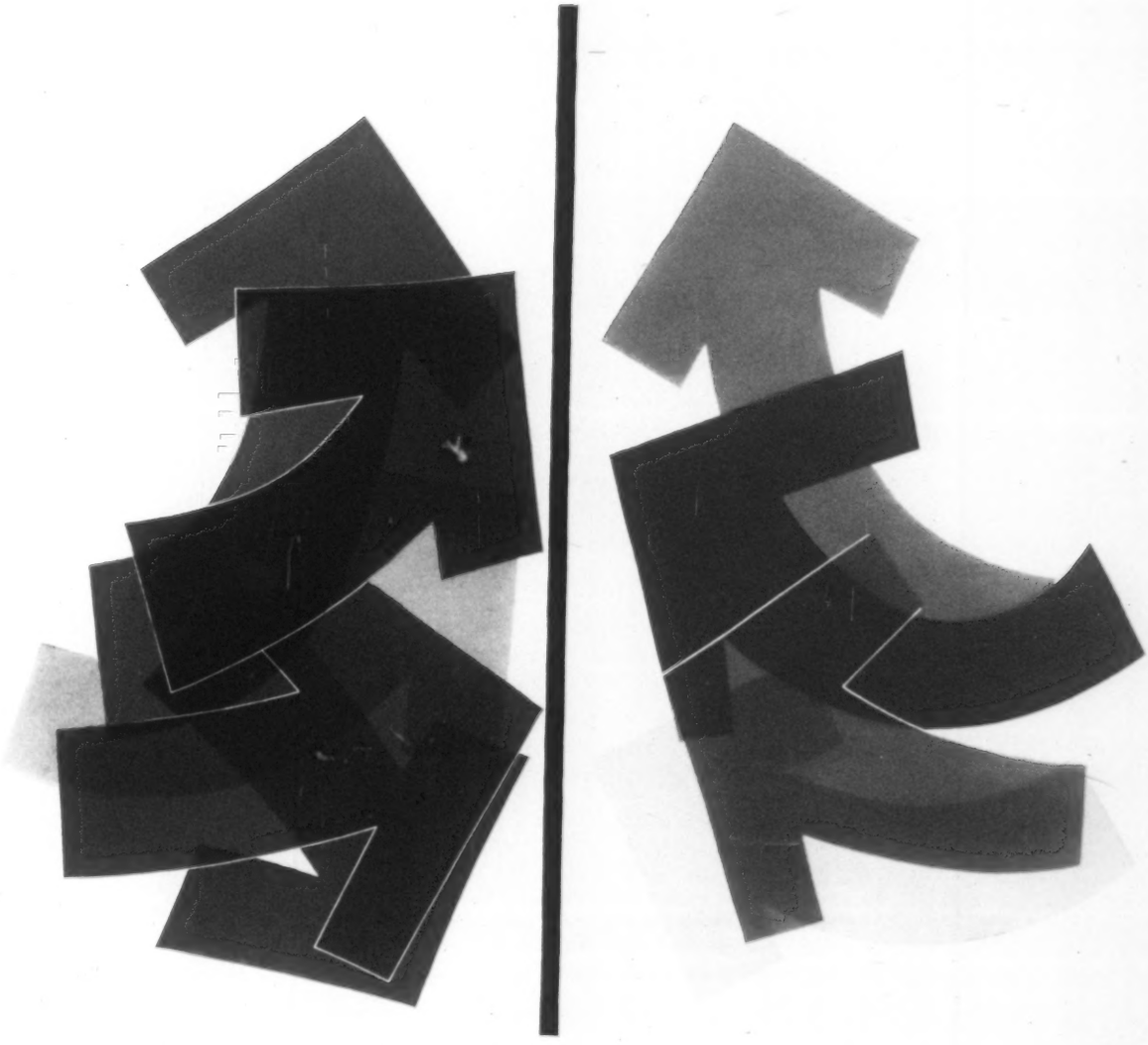

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All the properties of 'PHORPRES' clay products are studied intensively in the Company's laboratories; if you would like full details of the thermal resistance of structures built with 'PHORPRES' products, please write for a copy of "U-Values—The Facts" to

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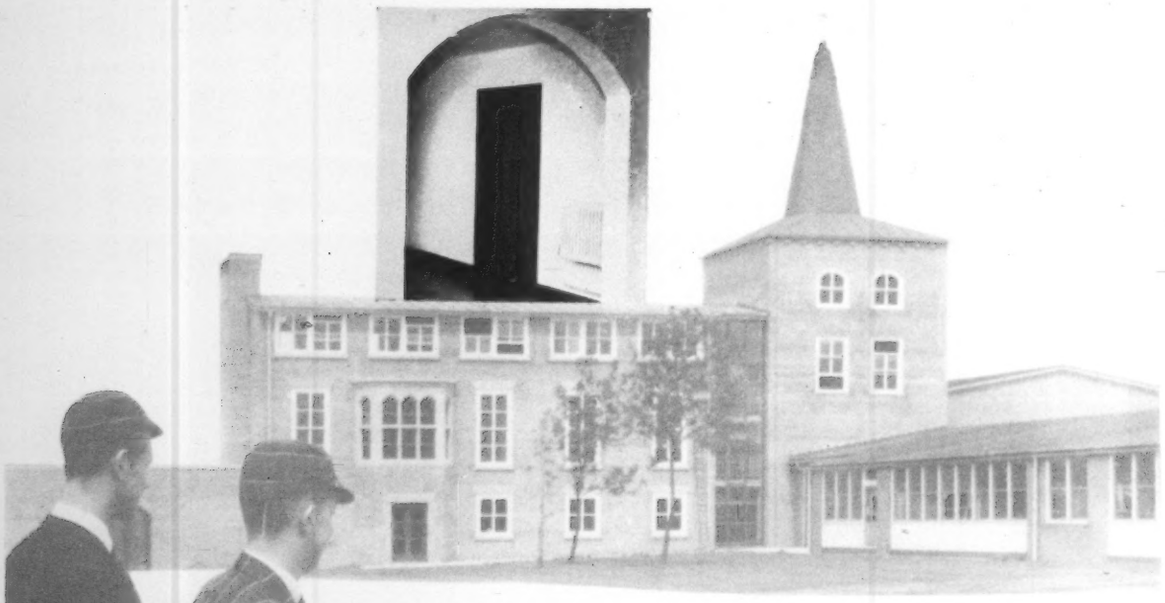

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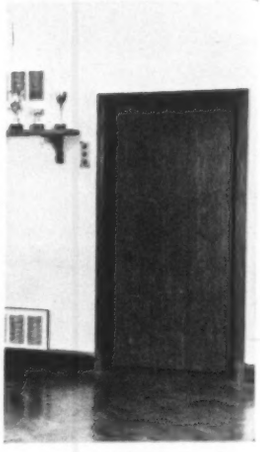

Photographs by courtesy of:—The Head Master, The King's School, Chester.
Architect—
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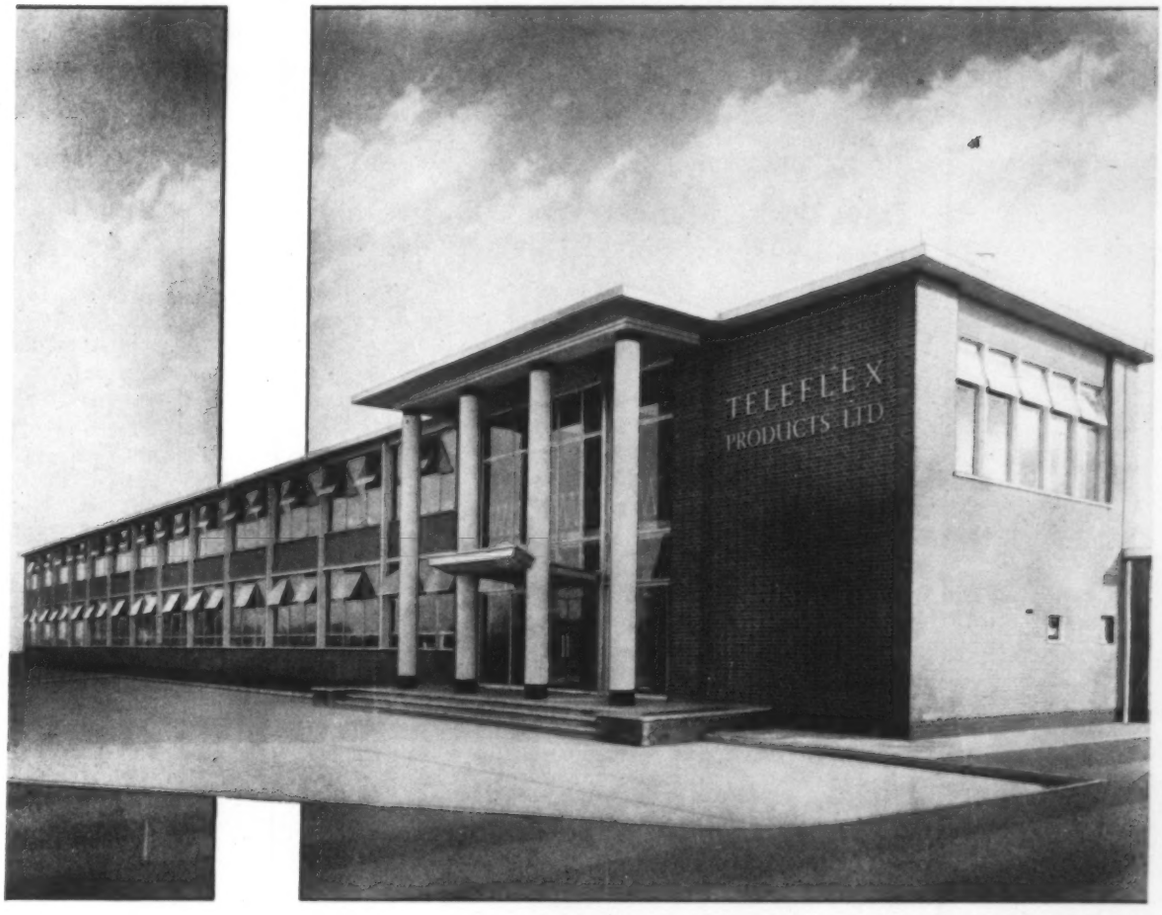

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Architects :

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Consultant Architect :

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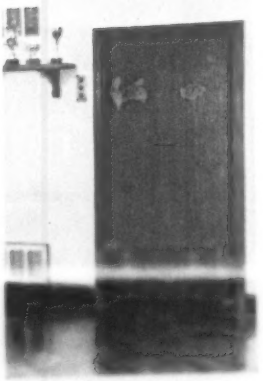

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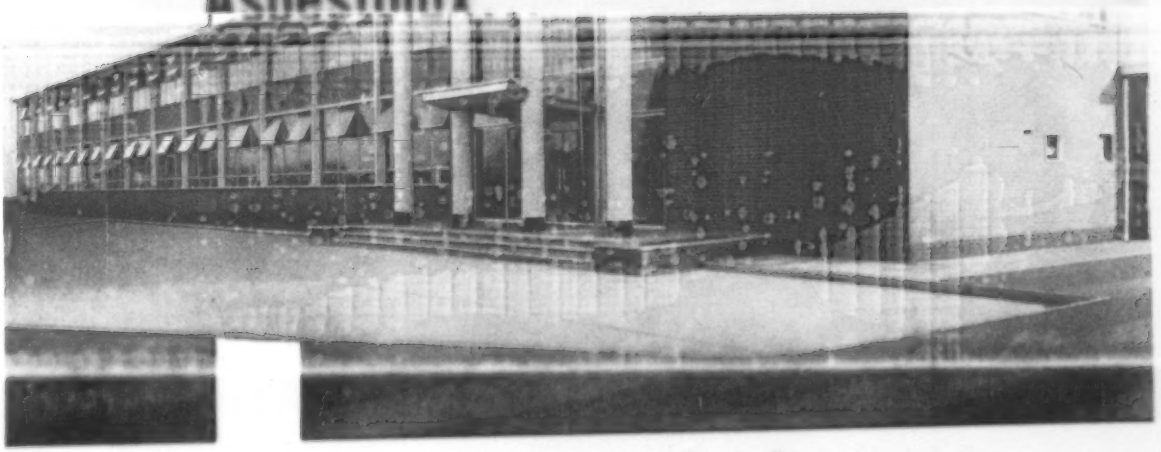

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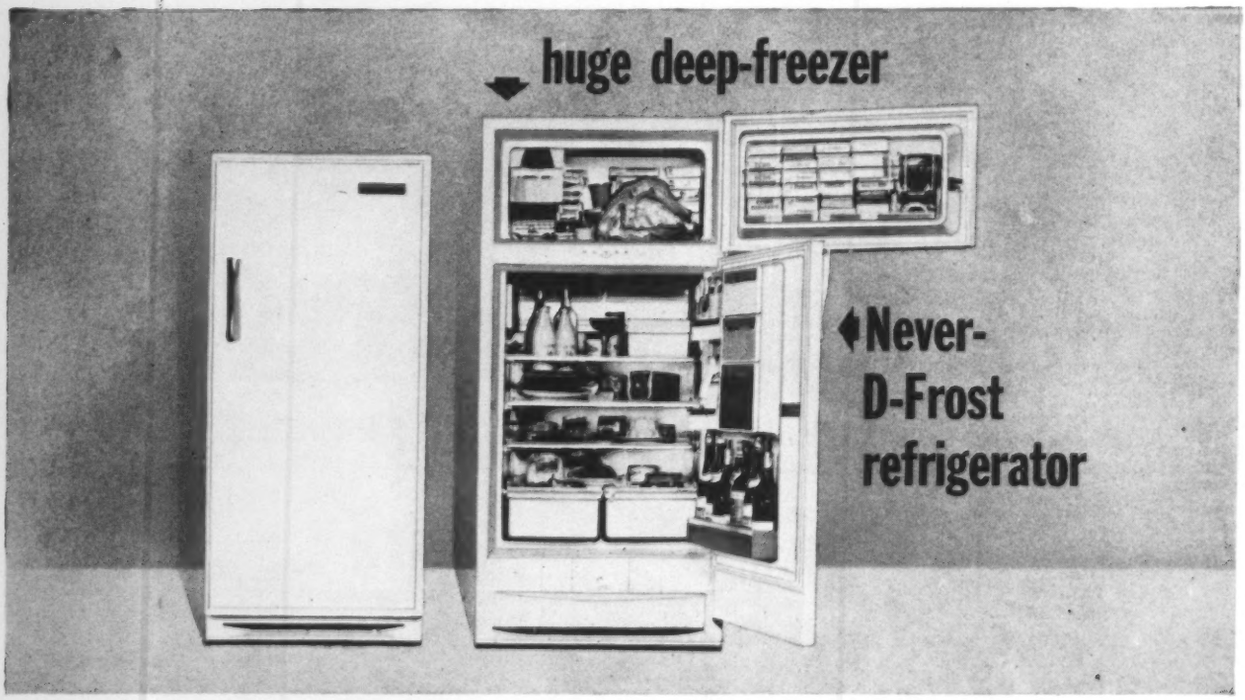

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this is the story . .

of a new light in Edinburgh's surgical neurology theatre

Newly developed G.E.C. magnetic switch controllers, the first of their kind in the world—shown here in an outline drawing—control all lighting in the two new operating theatres of the Western General Hospital in Edinburgh. Of unusual, almost ovoid shape, these theatres are equipped with the most modern apparatus to assist the work of the eminent brain surgeon and his staff.

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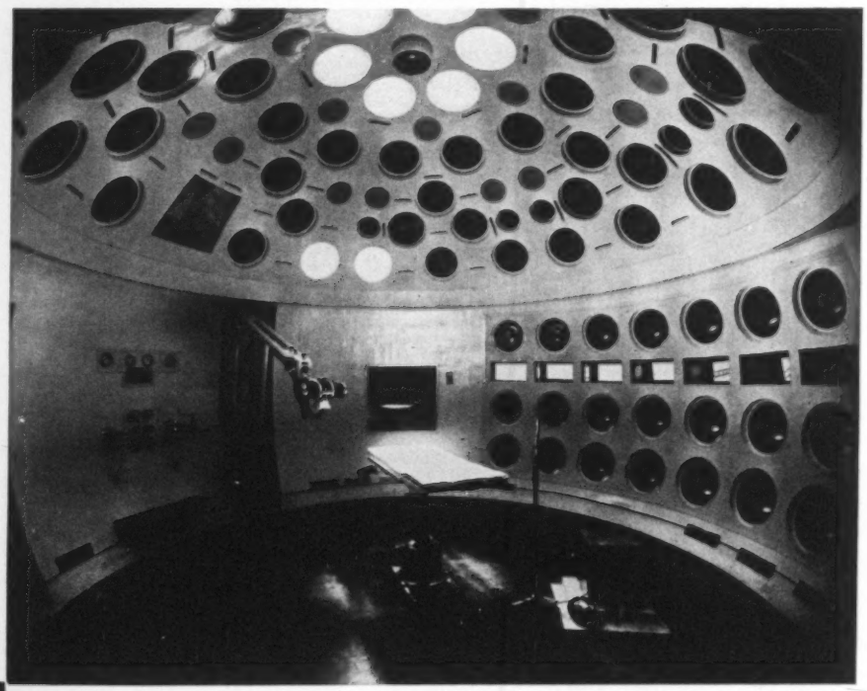

ARCHITECT-John Holt, F.R.I.B.A., F.R.I.A.S., A.M.T.P.I.
CONSULTING ELECTRICAL ENGINEERS-Donald Smith, Seymour & Rooley, Glasgow
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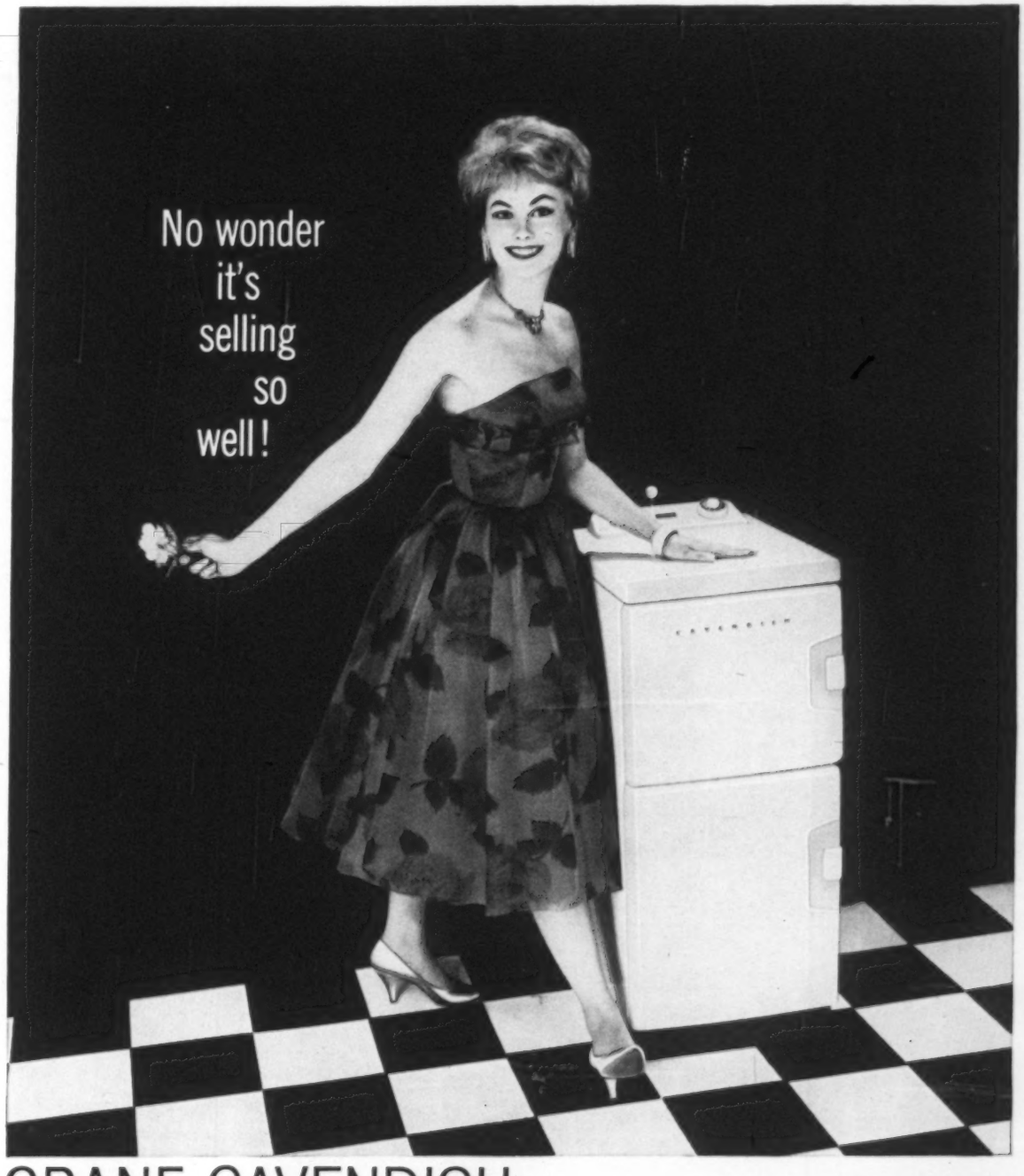

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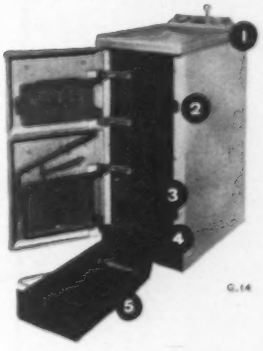
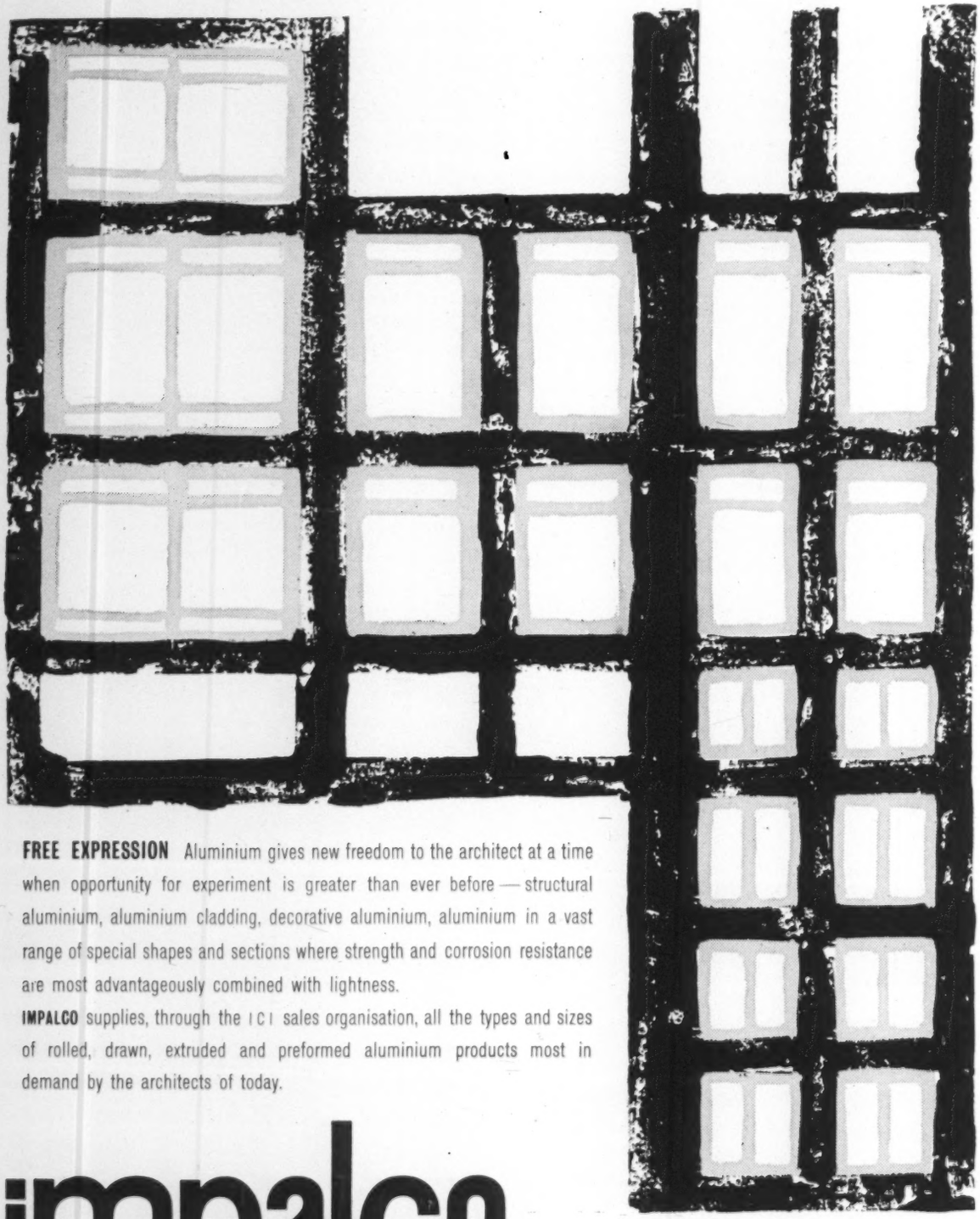


G.14



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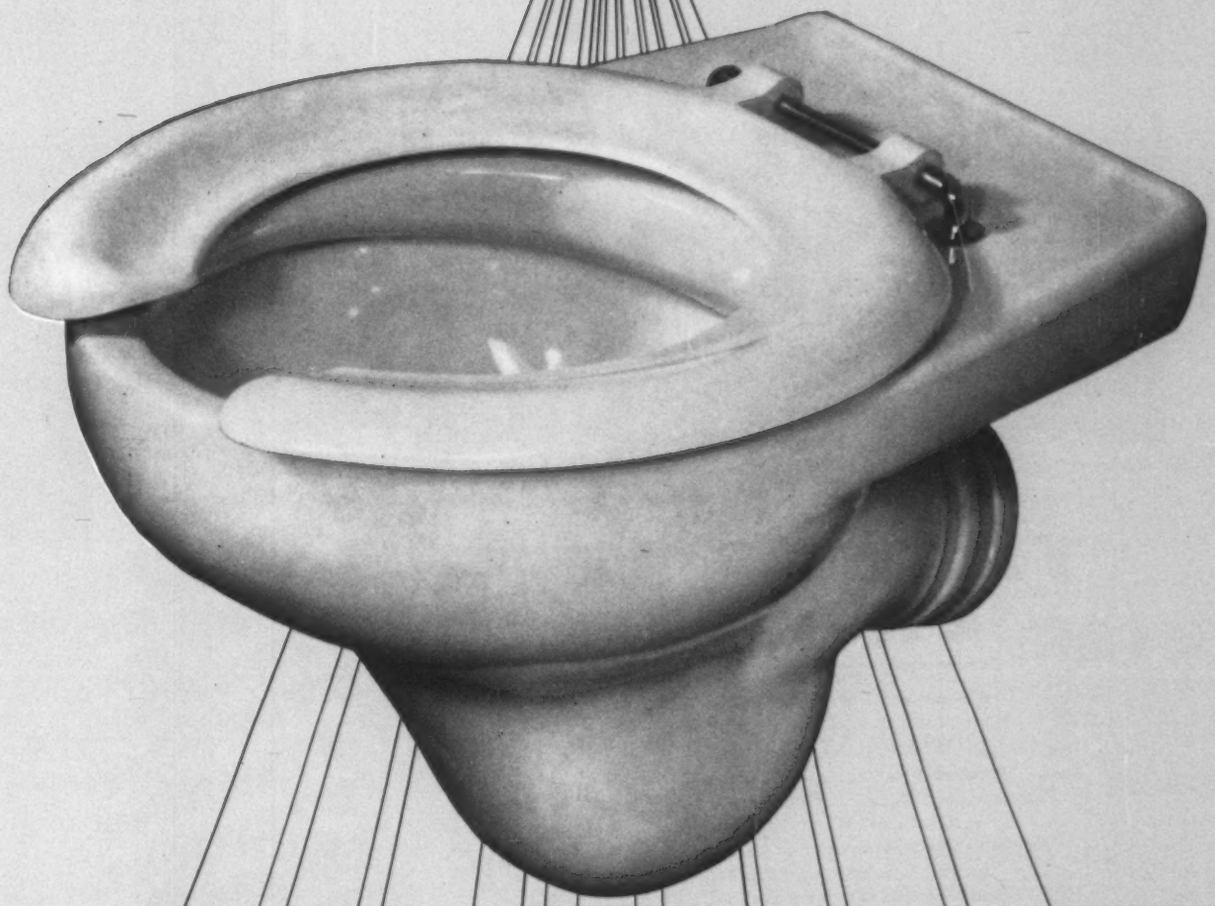

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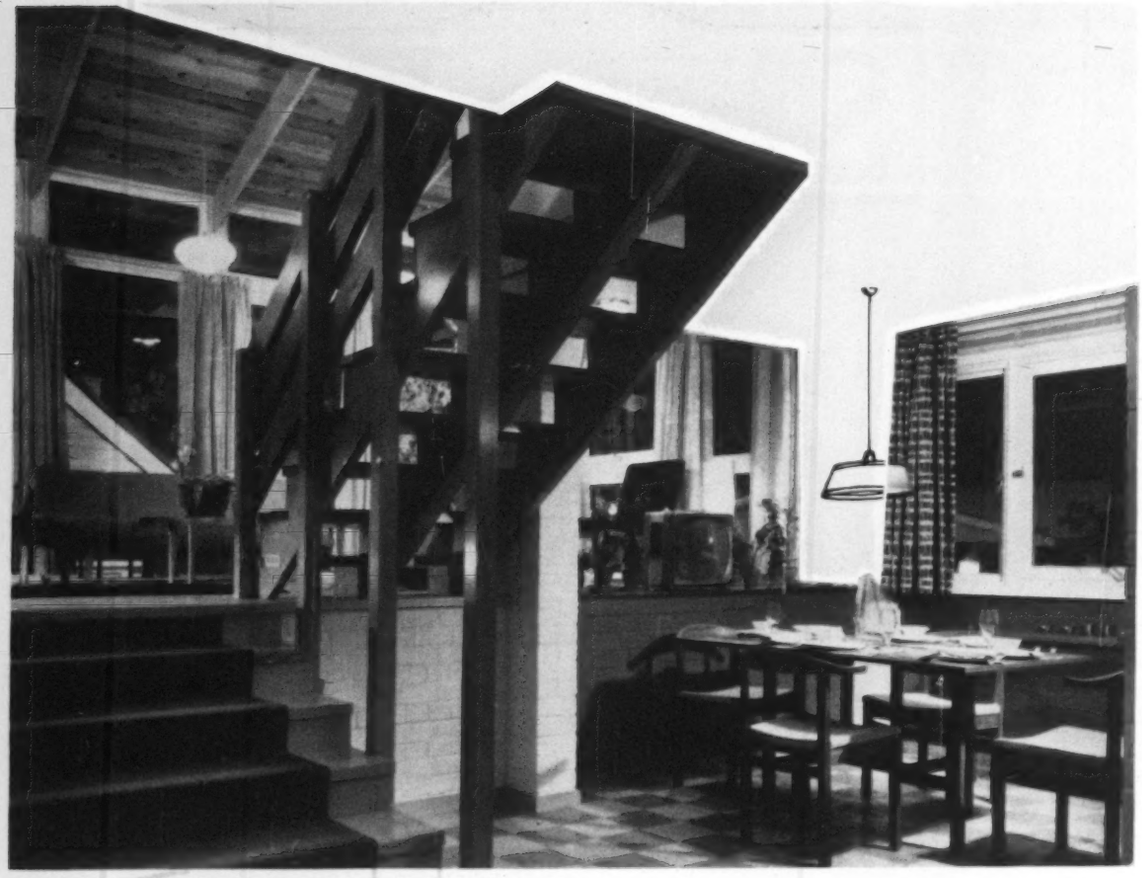

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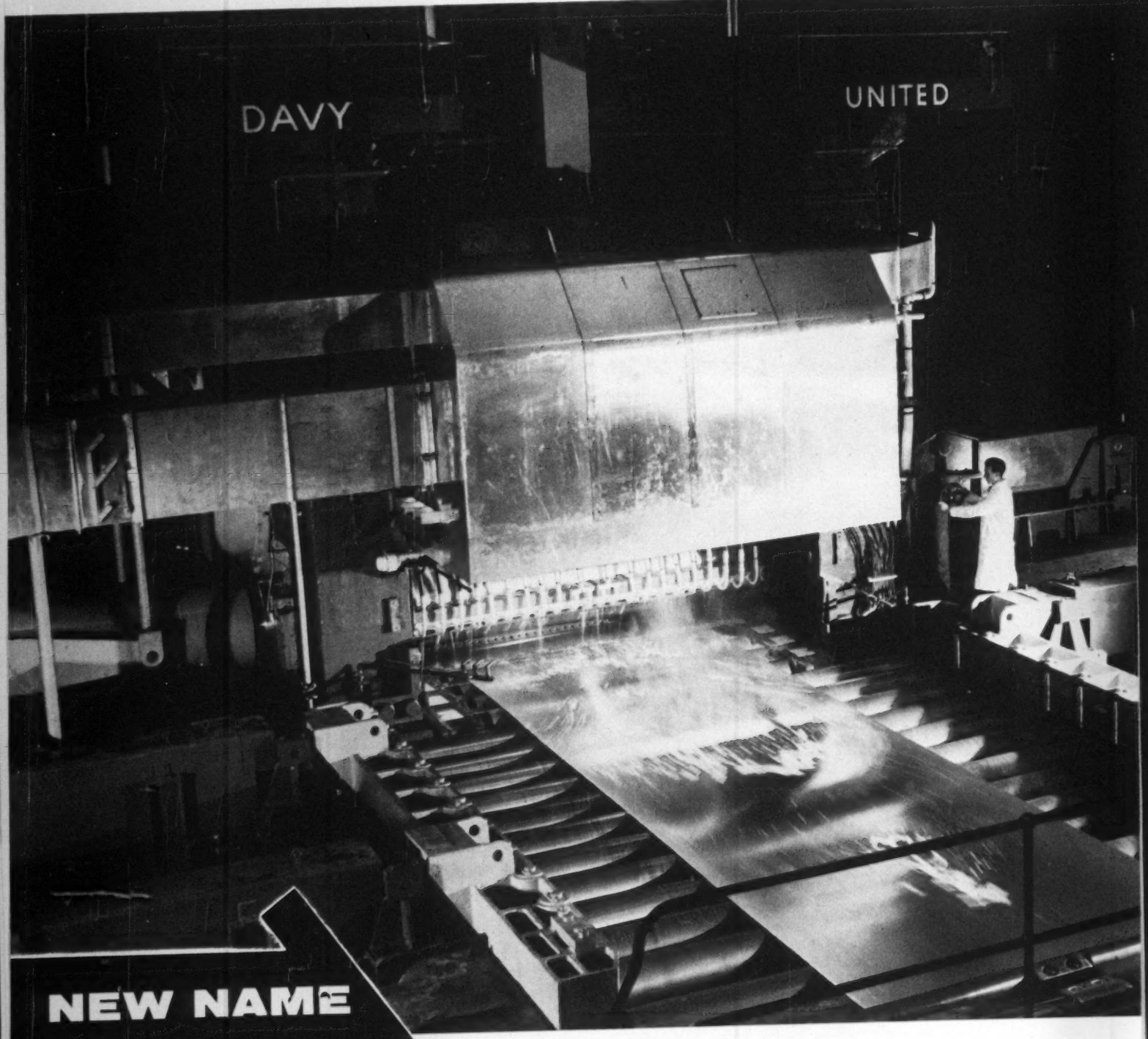

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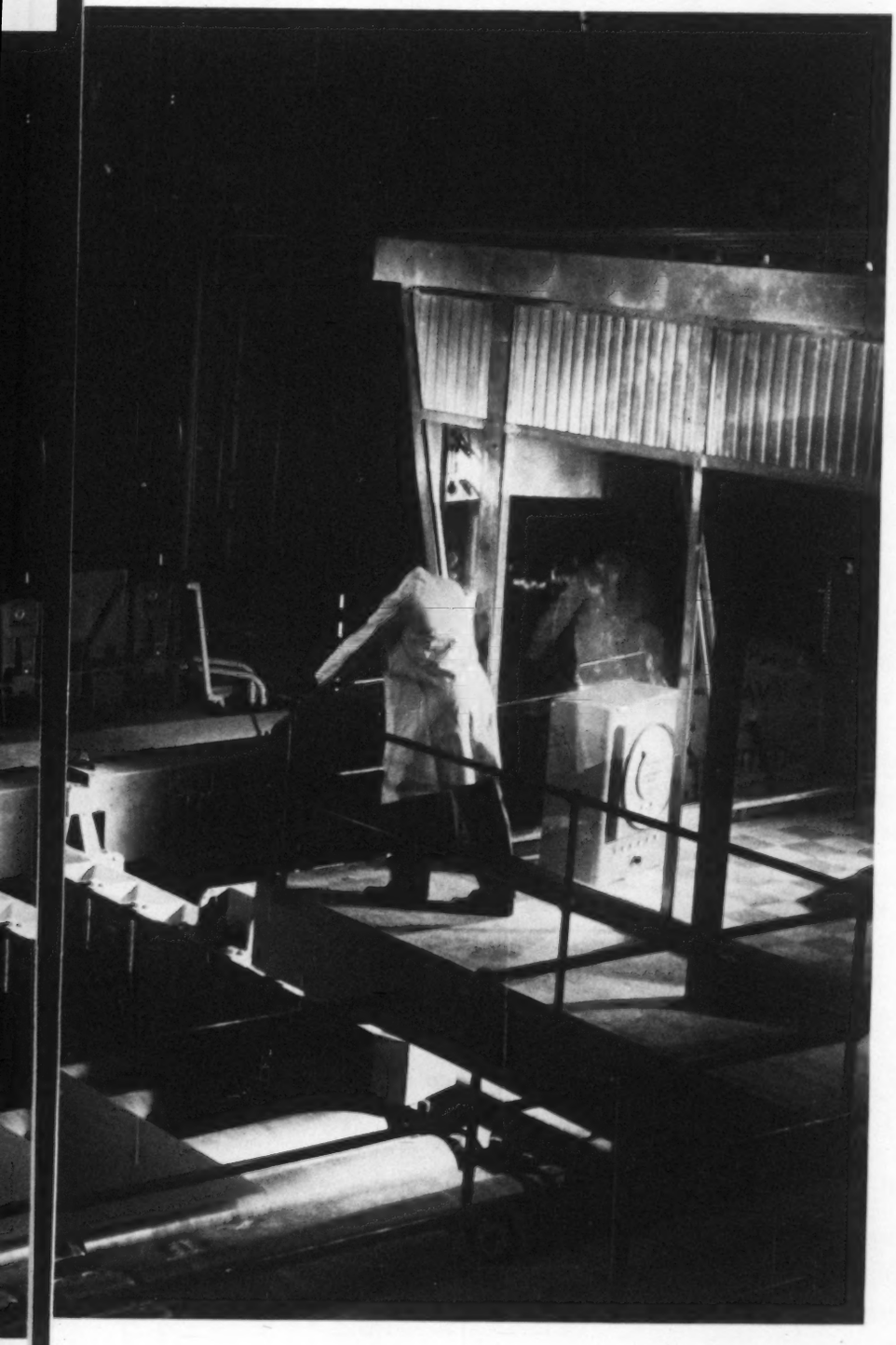

This 8,000 horse-power 144-inch mill, first stage in a 'hot line' one-third of a mile long, is the centrepiece of the latest expansion of the continuous strip mill at Rogerstone, Monmouthshire. New equipment and modernisation at a cost of over £7 million makes Rogerstone the largest aluminium rolling mill in Europe, with a nominal capacity of 70,000 tons of sheet and strip products a year, plus a substantial extra capacity for hot-rolled coil and plate. It demonstrates the determination of Alcan Industries – the new name of Northern Aluminium Company – to maintain their position as leading suppliers of aluminium products to British industry. Leadership in equipment is backed by long experience in the application of aluminium, including joining methods. If you use, or might well use, aluminium, for expert advice get in touch with your nearest Alcan Industries (formerly Northern Aluminium) office.

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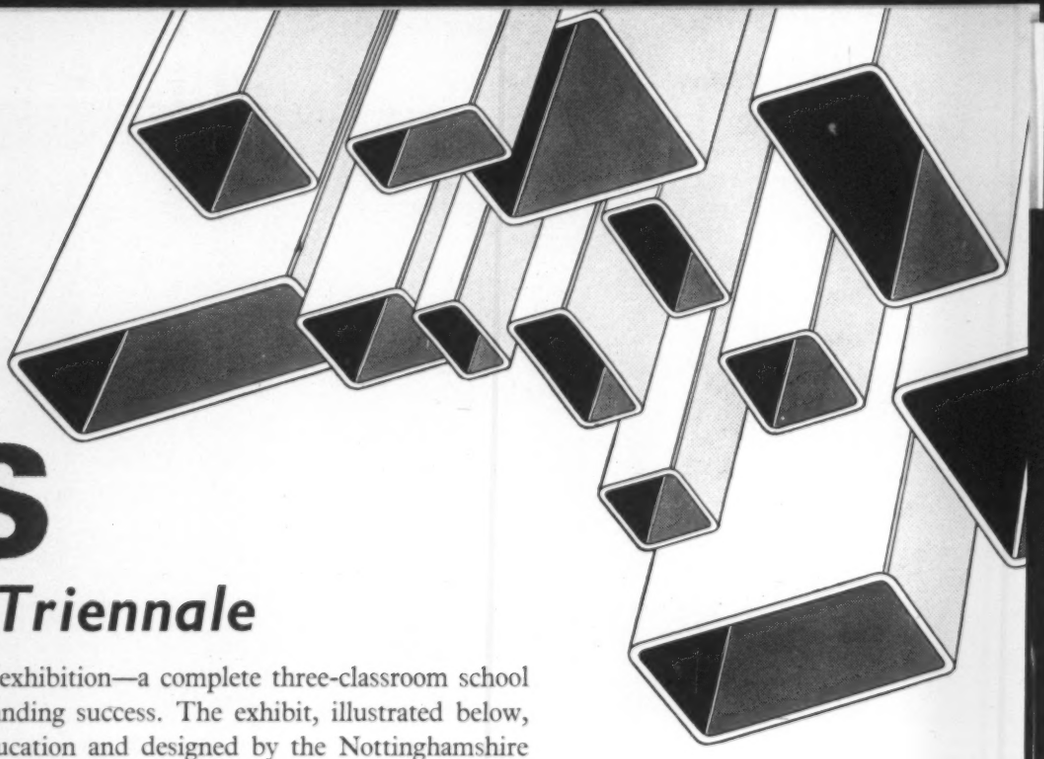

R·H·S

at the Milan Triennale

The British exhibit at this year's exhibition—a complete three-classroom school —has been acclaimed as an outstanding success. The exhibit, illustrated below, sponsored by the Ministry of Education and designed by the Nottinghamshire County Architect, W. D. Lacey, Esq., A.R.I.B.A., A.M.T.P.I., was framed by Brockhouse Steel Structures Limited.

When the exhibition is over, the school will be presented to the Milan Corporation for re-erection on a housing estate outside the city.

Stanchions in the main hall were constructed from S & L Rectangular Hollow Sections (RHS)—now being used on an ever-increasing scale for structural purposes in the construction of single and multi-storey buildings as stanchions, roof trusses, curtain walling and mullions for window frames.

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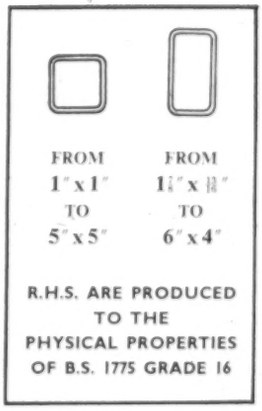

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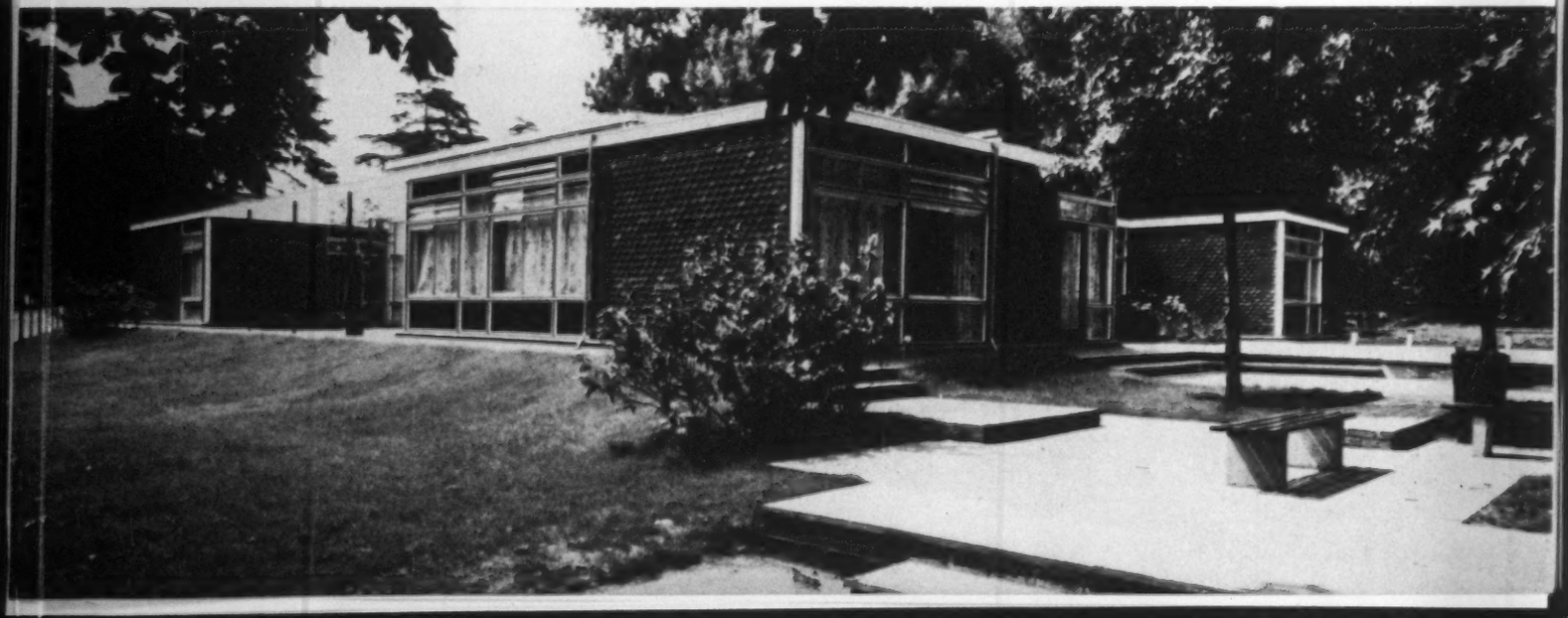

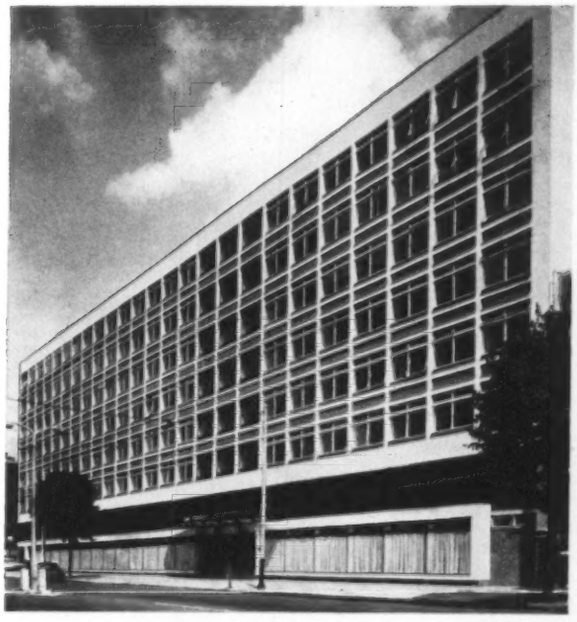

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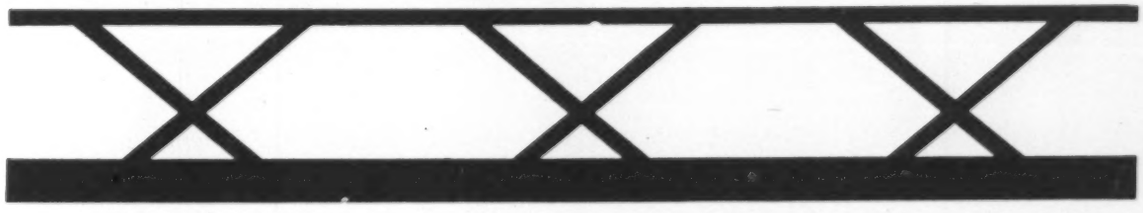

Friars House, Blackfriars, London
occupied by Central Electricity Generating Board
Architect: Robin Seifert, F.R.I.B.A.
Quantity Surveyor: Thompson & Alexander
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This sink unit is colourful, durable and lightweight—it's made from 'Perspex'

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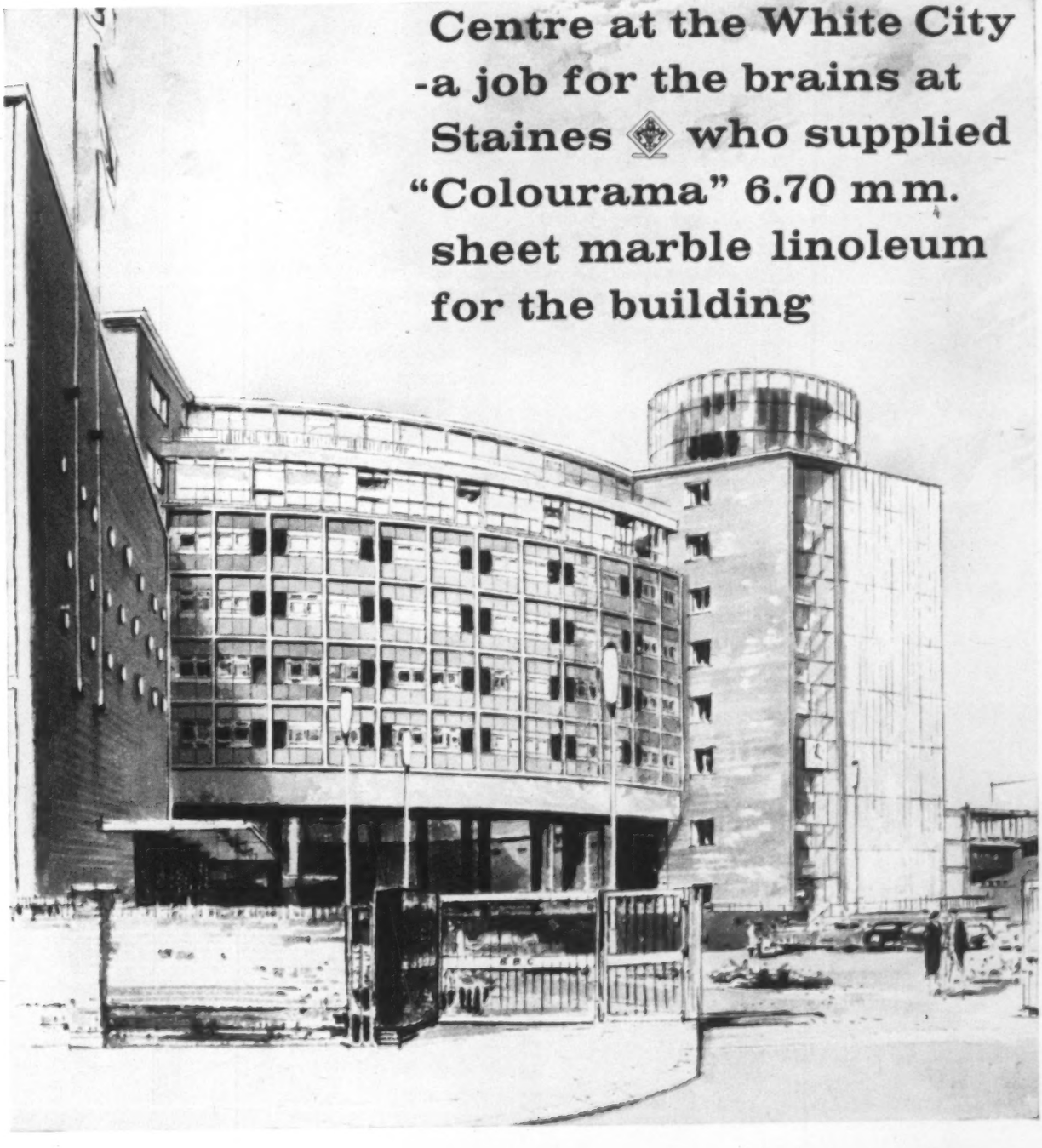

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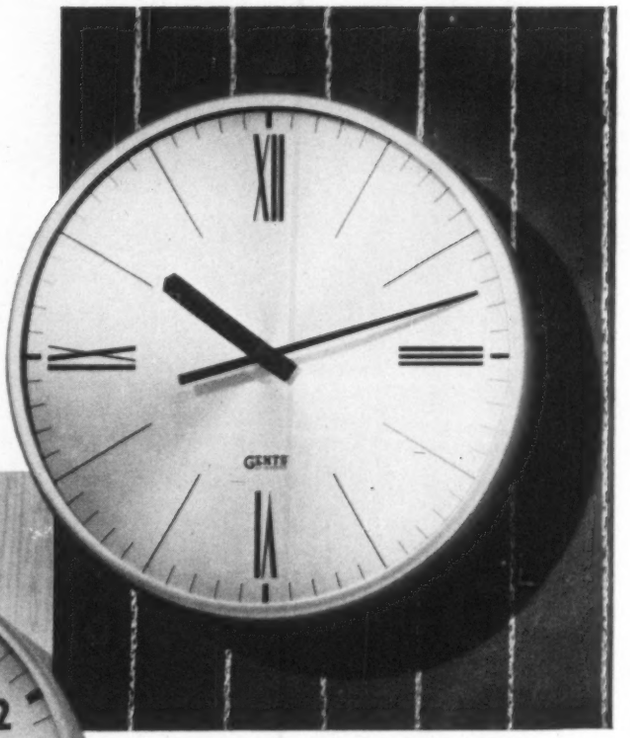

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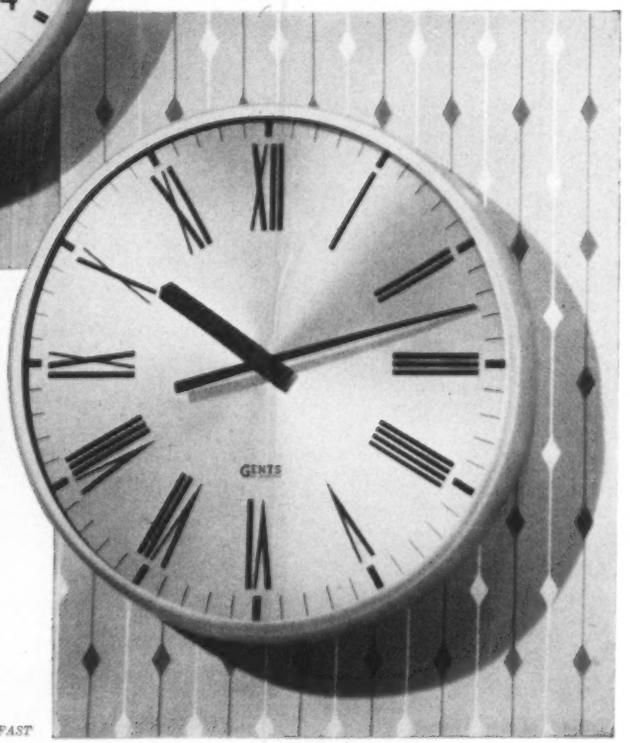

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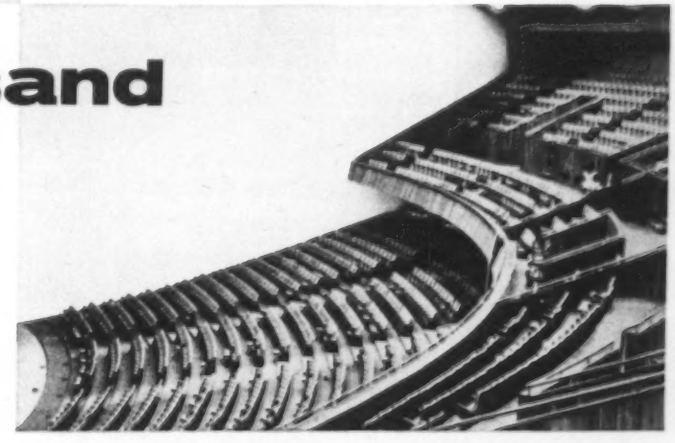

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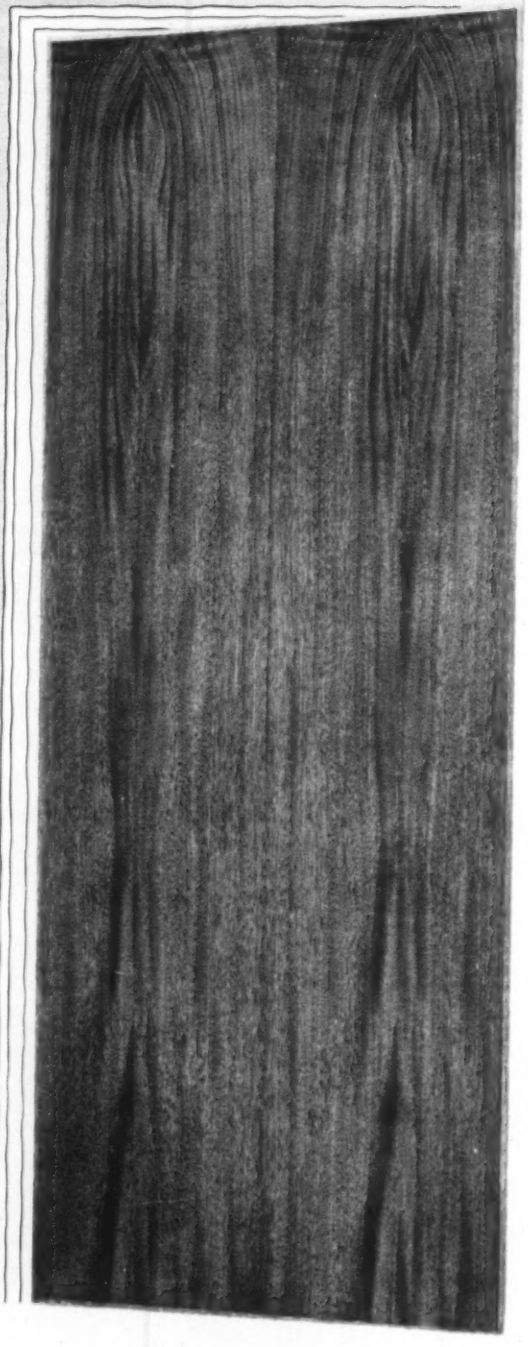

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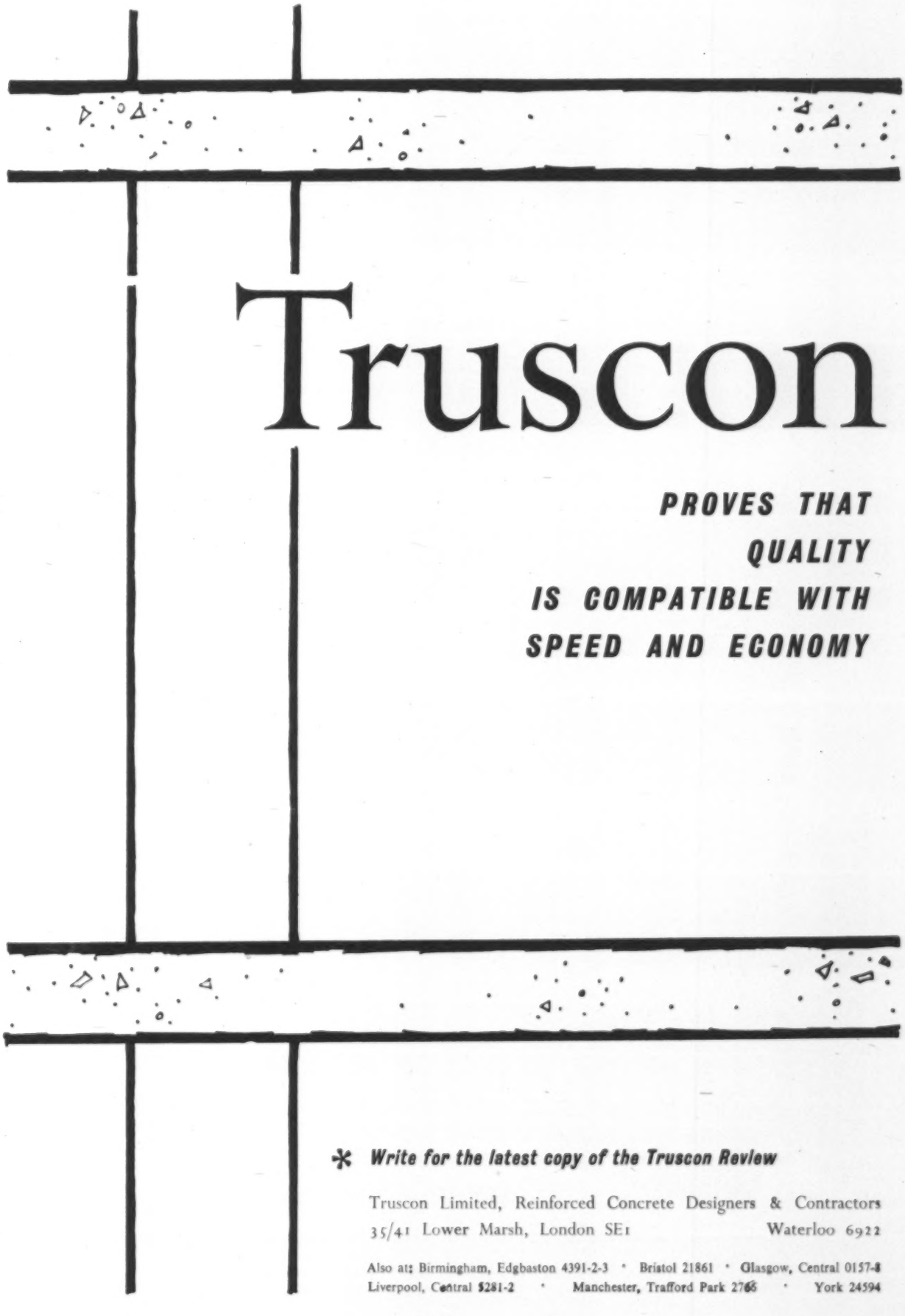

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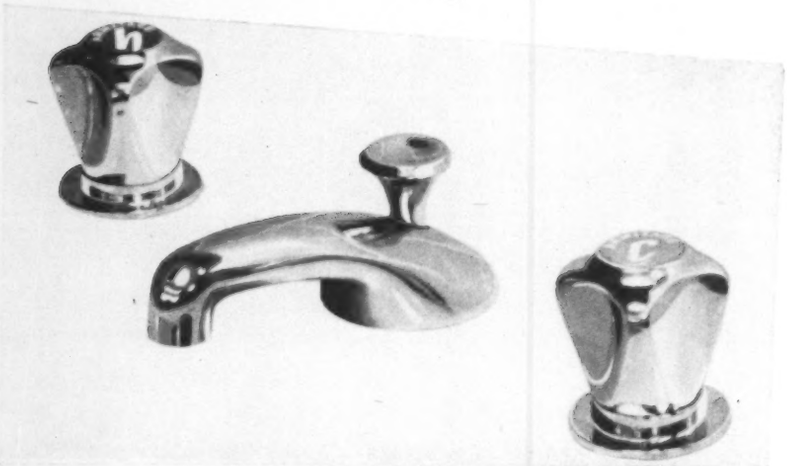

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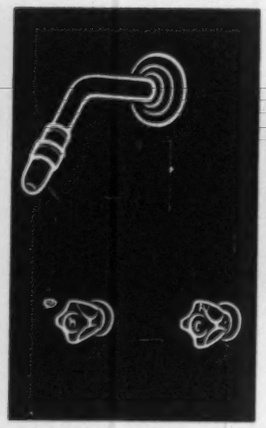

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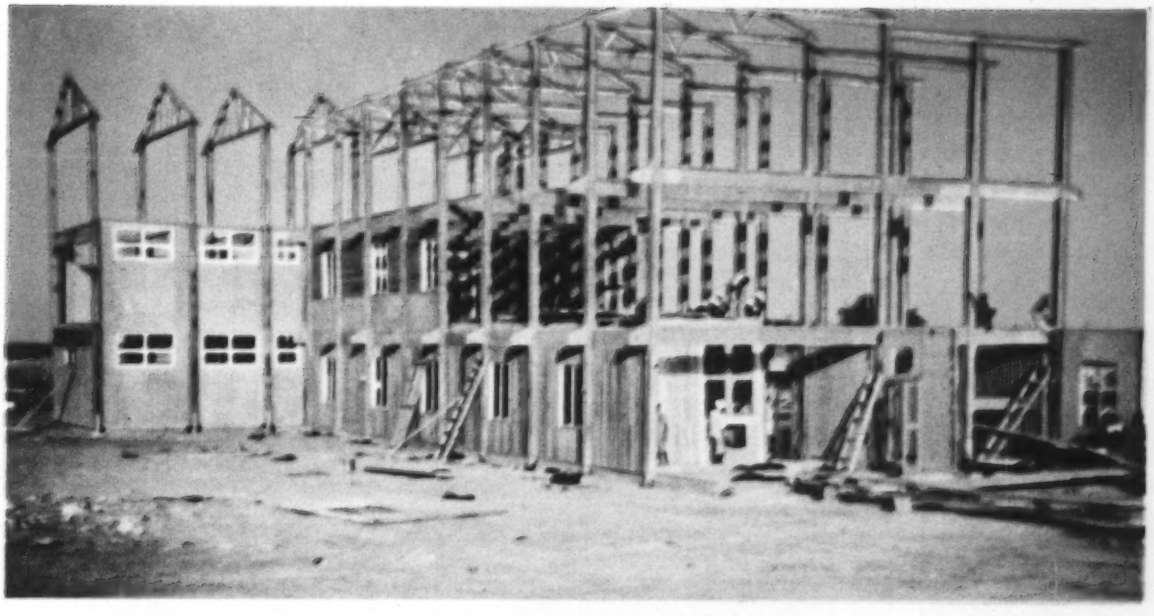

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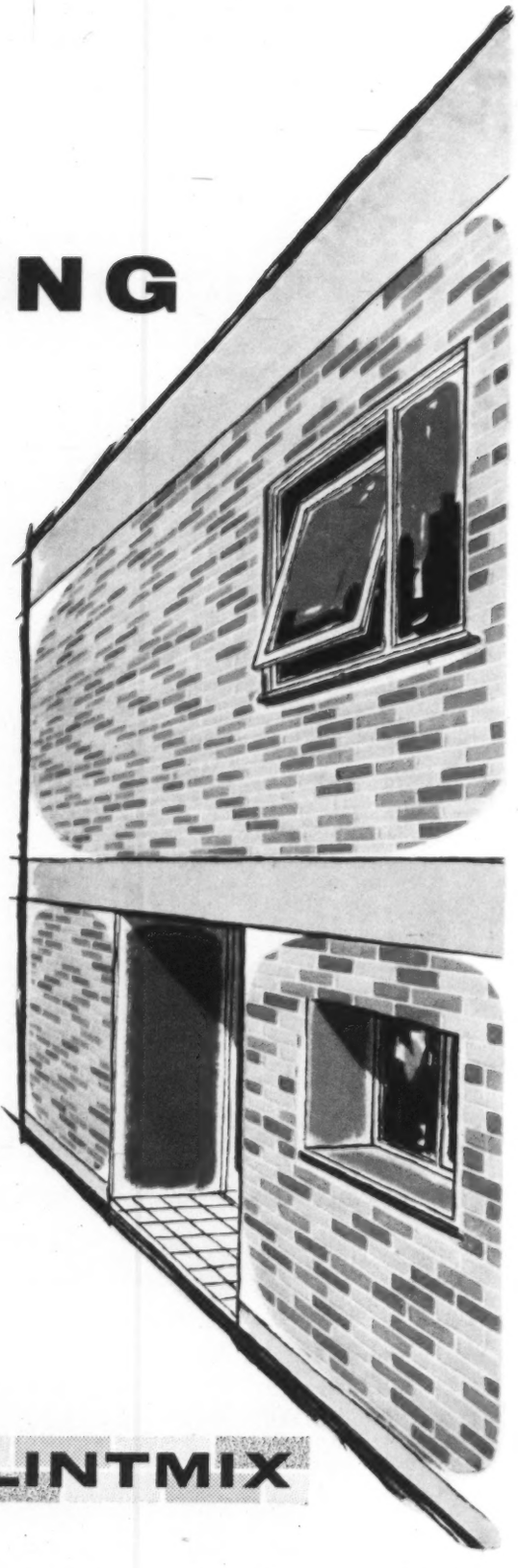

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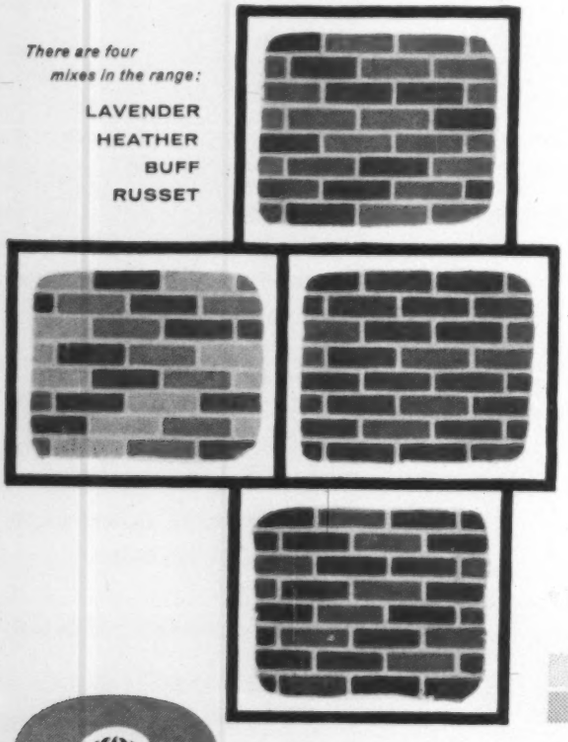

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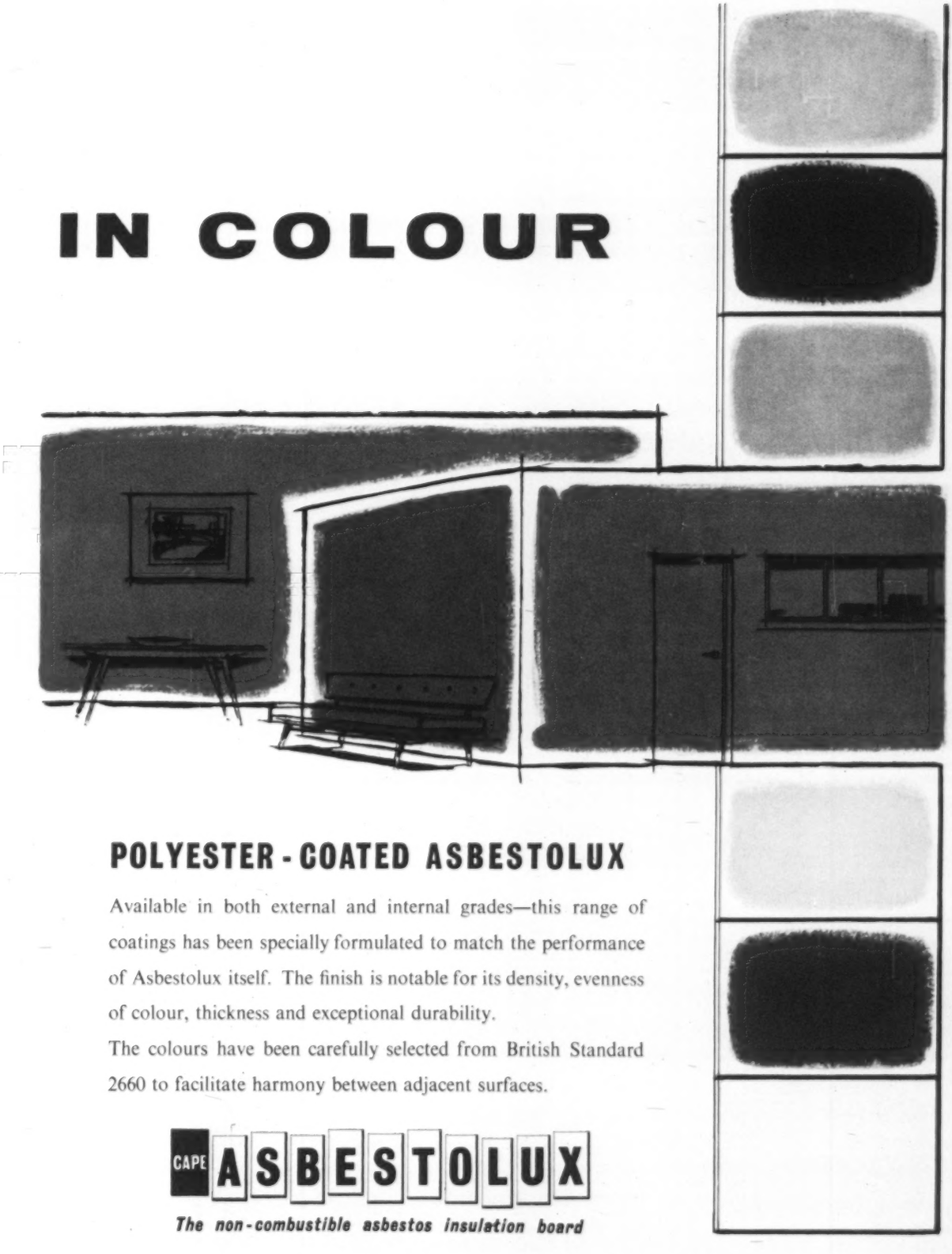

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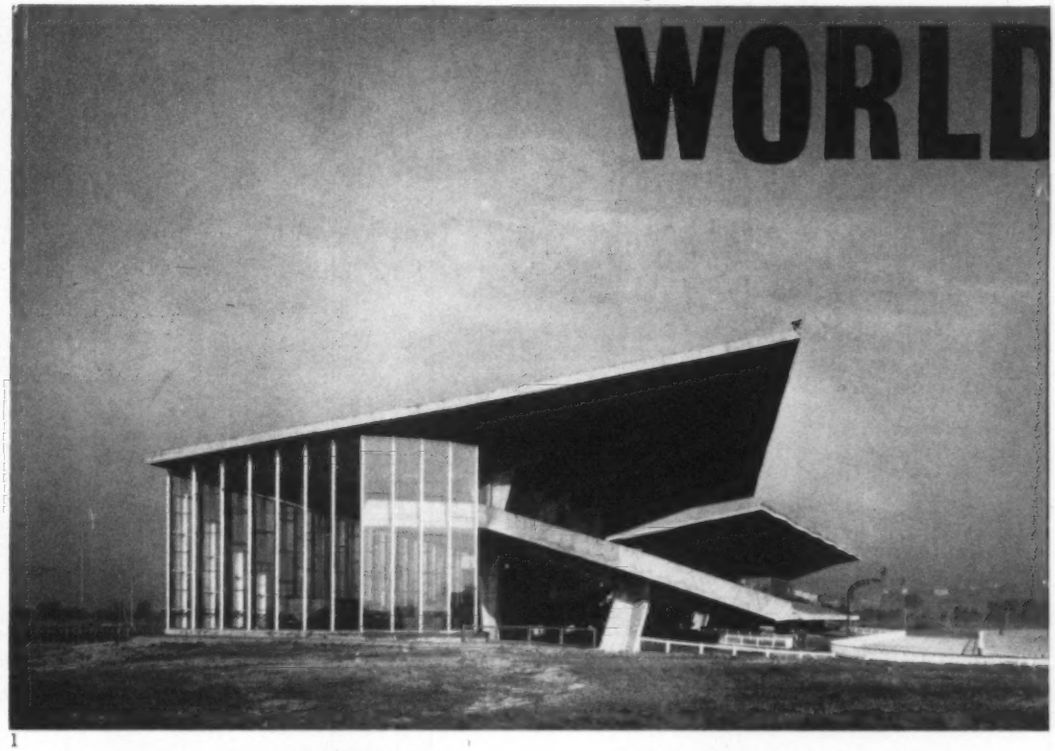

1

IPPODROMO

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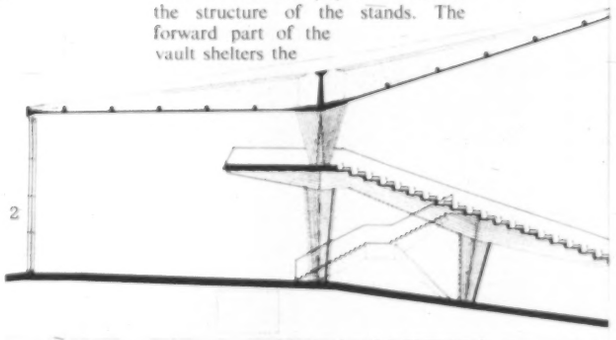
The basis of the scheme lies in its section, which has a system of concrete *ombrelloni* balanced, 2, on the back of the structure of the stands. The forward part of the vault shelters the



2

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ΣΦΕ

Deceptively English-lookin
garden side, the Sigma Phi
fraternity house for Utah St
versity, 6, is a remarkably calm
to a building programme wh
sented the architect, Eric D
St. Louis, with a tight budge
precipitous site. The steep fa
land, however, enabled him
practically every usable roo
tacular valley views across

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NOVEMBER 1960

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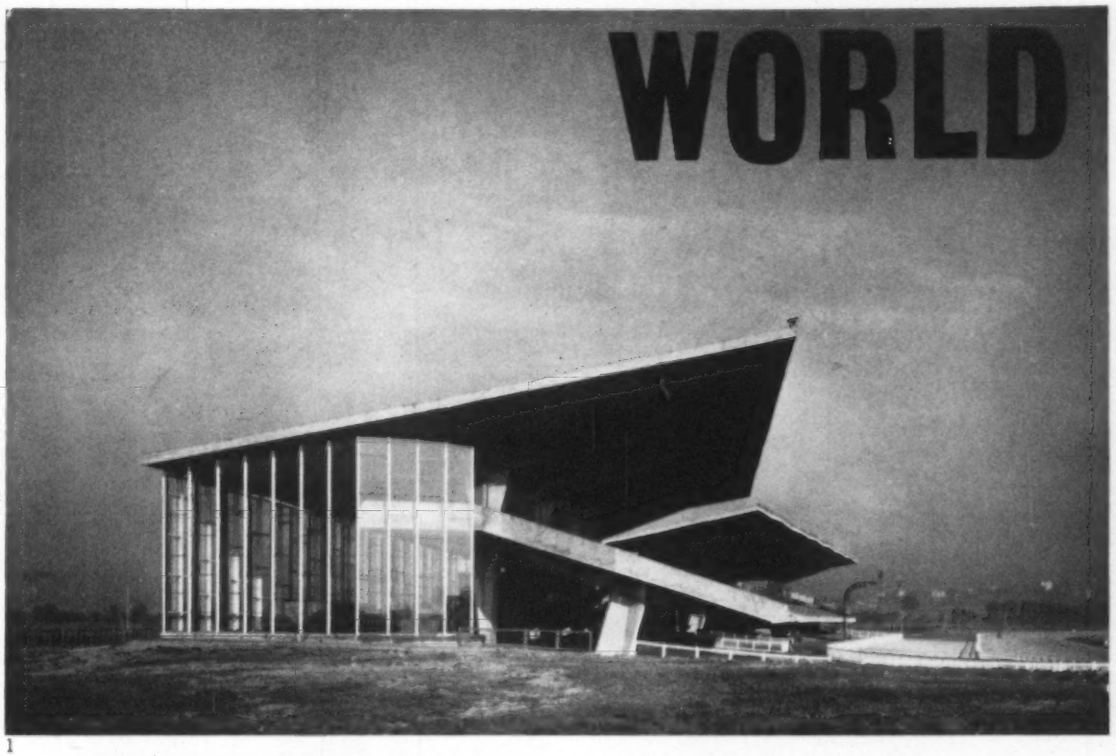

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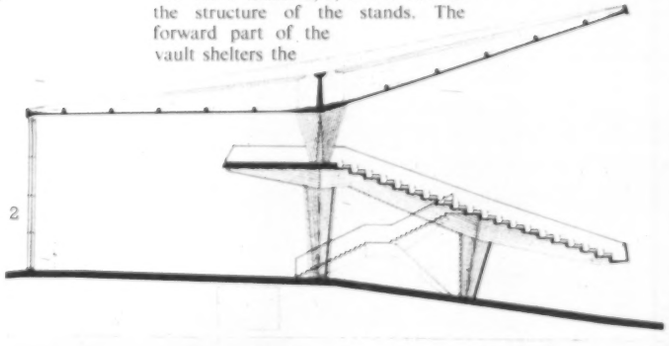
The basis of the scheme lies in its section, which has a system of concrete *ombrelloni* balanced, 2, on the back of the structure of the stands. The forward part of the vault shelters the ramped seating, the rear forms the roof to a large concourse, enclosed by a glass wall, 3, which houses all the subsidiary services, such as betting counters. In effect, the roof, glass wall (whose uprights serve as steadies for the roof) and the floor of the concourse form a continuous space-box, open toward the track, in which the stands, proper, are suspended. The detailing throughout is commendably straightforward, with simple moulded-plywood seats, 4, disposed so that the gangways lie parallel with the ribs of the main structure, 5, underneath.



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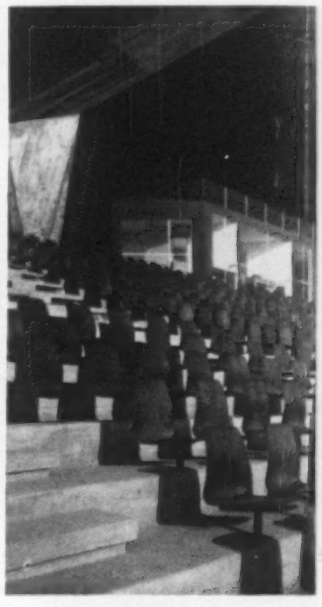


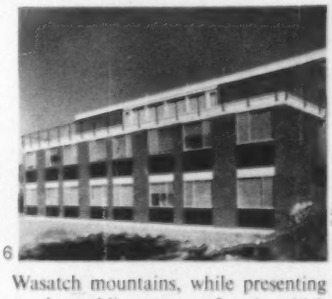
4

5

3

ΣΦΕ

Deceptively English-looking on its garden side, the Sigma Phi Epsilon fraternity house for Utah State University, 6, is a remarkably calm solution to a building programme which presented the architect, Eric Defty, of St. Louis, with a tight budget and a precipitous site. The steep fall of the land, however, enabled him to give practically every usable room spectacular valley views across to the Wasatch mountains, while presenting to the public street a façade which expresses, firmly but politely, 7, that



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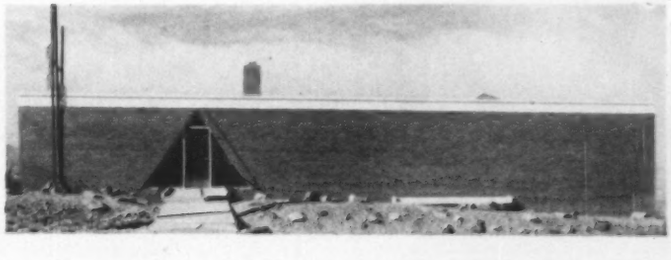

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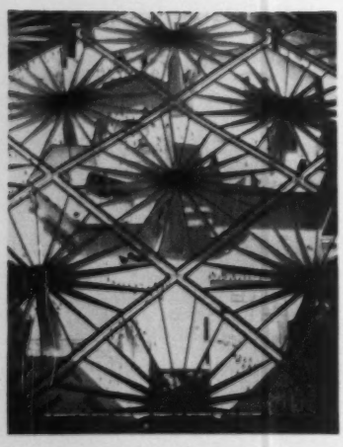
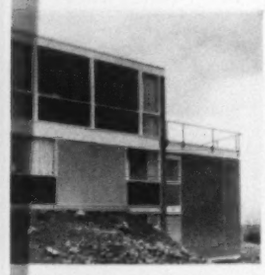
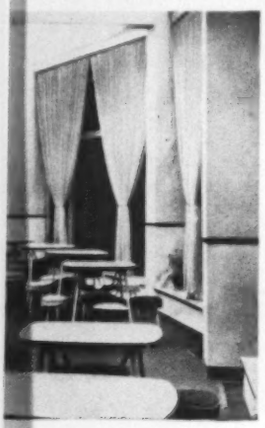
ACKNOWLEDGMENTS

WORLD, pages 317–320: 1, 3, 4, Laboratorio Fototechnicho Industriale; 2, 5, Oscar Savio; 9–12, *Arhitectura RPR*; 13–15, *Arkkitehti Arkitekten*; 16–18, *Deutsche Bauzeitung*; 23–28, *The Japanese Architect*. NEWS AND REVIEWS, pages 321–323: 1, Eric de Maré; 4, Galwey Arphot. FRONTISPIECE, page 324: Eric de Maré. FOUR FOREIGN HOUSES, pages 329–340: 1–5, Foto Brehme; 6–15, Mark Strizig; 16–18, Pertti Ingervo; 19–24, J. Moscardi. SCHOOL IN ST. MARYLEBONE, LONDON, pages 346–353: 1, 3–19, Galwey Arphot; 2, Toomey Arphot. 12TH TRIENNALE, pages 354–361: frontispiece, 1–5, 7–11, Kenneth Browne; 6, Publifoto Milano. ID, pages 362–367: 1–5, Cunard Line; 12–14, Nicolas Breton. EXPLORING EYE, pages 368–369: Ava Guler. CURRENT ARCHITECTURE, pages 370–372: 1–4, Toomey Arphot; 5, MOW; 6, Galwey Arphot. EXHIBITIONS, pages 373–375: 1, 3, 5, 7–9, Arts Council; 2, 6, Museum of Modern Art, New York; 4, Charles Uht. PLANTS, pages 375–376: 1–3, Toomey Arphot. HATS OFF, pages 376–377: 1–3, John Maltby; 2, Ronald Chapman. SKILL, pages 379–382: 6, Beringer & Pampatuchi; 10, Paris-Photo.



This Month's Cover *takes a model view of the roof-pattern of one of the most remarkable buildings due for completion in 1961—Pierluigi Nervi's prize-winning scheme for the Palazzo del Lavoro at the exhibition in Turin which will celebrate the centenary of the unification and pacification of Italy after the Risorgimento. The Palazzo is to house an international exhibition on the theme of Labour, and will cover a square with sides of just over 500 feet. The project is described and illustrated on page 319.*





East European Architecture in transition

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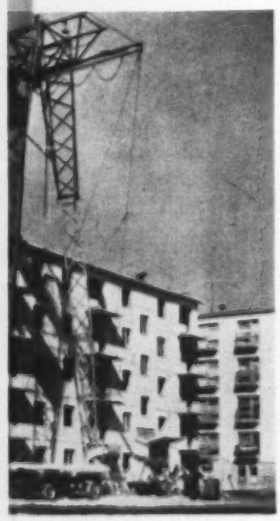
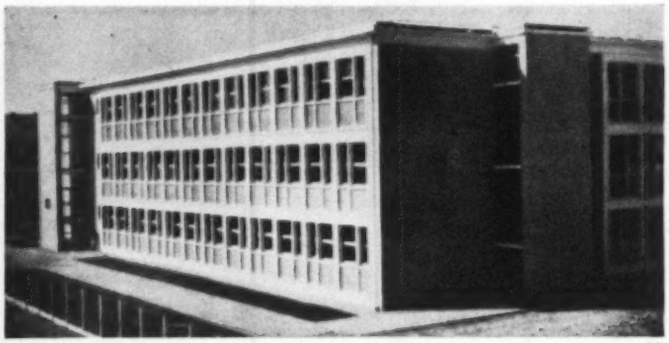
erefore finds it difficult to judge. na, on the other hand, complete an espresso machine that is





12

closely related to Gio Ponti's pioneer *Pavoni*, and fitted into a corner of an existing building in Bucarest (see plan, 11) is a familiar functional type in a familiar setting. What is remarkable in Western eyes is that the general style of the solution, with its stools, quartic-shaped table tops and that old stand-by, the atom-orbit diagram used as a decorative motif (on a wall not shown in this picture) should be equally familiar.

Indeed, it is clear that apart from the concrete super-block, to which an unmistakable aura of pre-Thaw aesthetics persistently clings, East European architecture is dramatically less alien to Western ideas than it has been. Recent issues of the Rumanian bi-monthly *Arhitectura RPR* have carried an increasing number of buildings that cannot be located by their style—12, for instance, which might easily have appeared in *Current Architecture* in recent years, is in fact a school in the Floreascu district of Bucarest, designed by the architects Bacalu and Cristea, with the engineers Vasilache and Marcovici. It is one of a series of ten semi-standardized schools built in various quarters of the city, as part of a programme initiated in 1959, and should be capable of comparison with recent British school building programmes. There is, again, something reassuringly familiar about the claim that in spite of new teaching requirements, unit costs (measured here by class-rooms, not places) have dropped from 130,000 lei to 90,000.

FAN-PLANS

Aalto in Germany

One of the least expected developments in Alvar Aalto's richly continuing development as an architect is the trend to fan-planning that has emerged in his recent work. It began, presumably, to take its characteristic asymmetrical form with his design for the Soviet House of Culture in Helsinki (AR, Marginalia, May, 1959) but two new projects of Aalto's for sites in Germany, published along with the House of Culture in *Arkkitehti-Arkitekten* (12, 1959), take the idea much further.

Putting these two schemes in order of progressive development of the idea (not necessarily the order of date) the *Kulturzentrum* for Wolfsburg, the Volkswagen city, has a fan of progressively smaller auditoria, 13, closing one end of a square block of educational facilities, and promising to present a remarkably effective and craggy façade on the side flanking the new town hall square.

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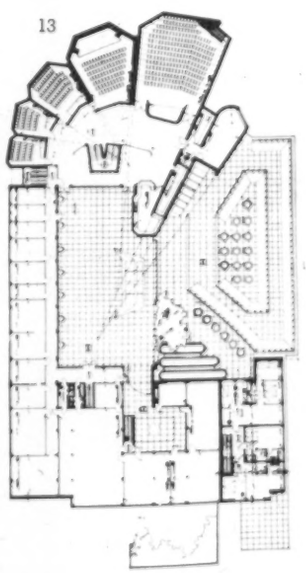

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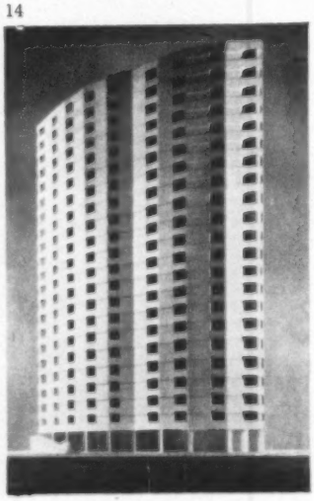

The other German project, a block of flats for a site in Bremen, is much more remarkable. The fairly bland undulating façade, seen in model form in 14, gives no real hint of the way in which nine flats on each floor are splayed out, 15, from a rectangular block of lifts and services which can be regarded, to judge from the observations made in *A-A*, as a drastically shortened version of the access corridor of a normal slab block. The wedge-shaped plans of individual flats were anticipated in the rooms in the sinuous parts of Aalto's Baker House

Top marks again for Carda as the new Shell Centre rises three hundred and fifty one feet into the future.
More than six thousand Teak double glazed Carda Windows are now being installed into the buildings as part of the largest order for multiple glazed fenestration systems ever placed.

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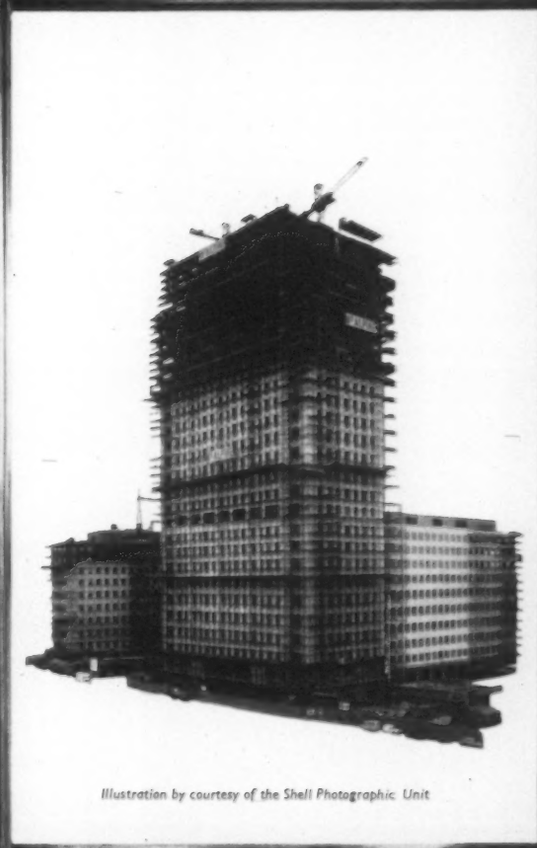


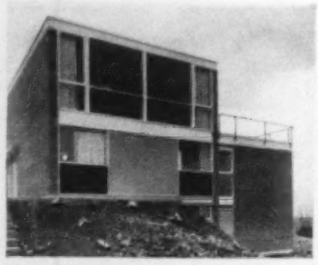
Illustration by courtesy of the Shell Photographic Unit

Carda
WINDOW
REG D TRADE MARK

21 Mackenzie St. Slough Buckinghamshire, Telephone. Slough 25431-2-3.

Utah fraternity

this is a private club. What the photograph does not show is that this is in fact a two-storey frontage, with the members' main entrance at the upper level reached by a bridge over a dry moat which acts as a service area for the dining room on the floor below, thus giving the overlapping two-storey step-down in the section that is revealed, 8, by the end elevation.



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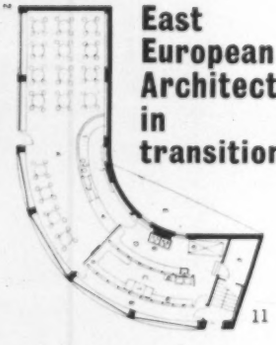
9

RUMANIA 1960

East European Architecture in transition

It may seem perverse to single out so minor a work of architecture as the Dorna coffee bar, 9, to introduce the architecture of Rumania, but there are good reasons. One of the missing links in the chain of communication between Eastern and Western architecture—quite apart from language and the regrettably poor paper-stock on which illustrations in East European magazines are commonly printed—lies in the relative emphasis on different building types. At present, overwhelming value is still placed on giant developments of prefabricated flat-blocks, such as the experimental scheme in Bucarest, 10, designed by Drimer, Kereaski, Lazar and Popescu, a type of building of which the West, generally, has little or no experience, and therefore finds it difficult to judge.

Dorna, on the other hand, complete with an espresso machine that is closely related to Gio Ponti's pioneer *Pavoni*, and fitted into a corner of an existing building in Bucarest (see plan, 11) is a familiar functional type in a familiar setting. What is remarkable in Western eyes is that the general style of the solution, with its stools, quartic-shaped table tops and that old stand-by, the atom-orbit diagram used as a decorative motif (on a wall not shown in this picture) should be equally familiar.



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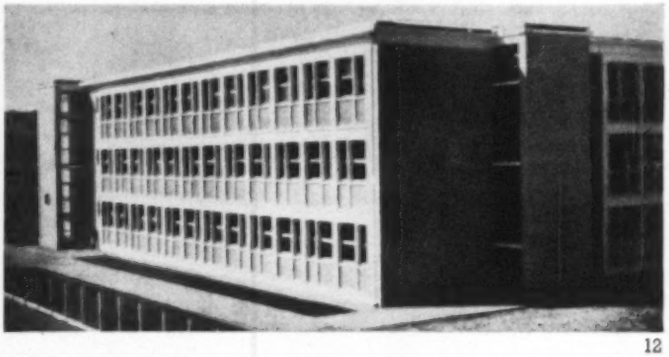

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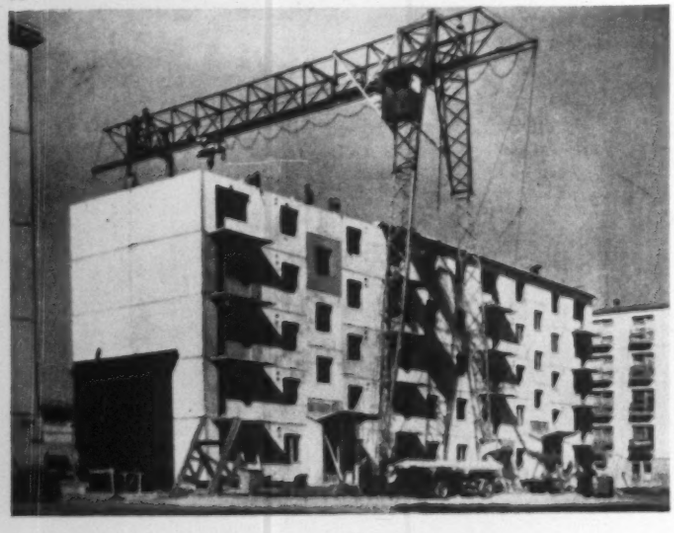

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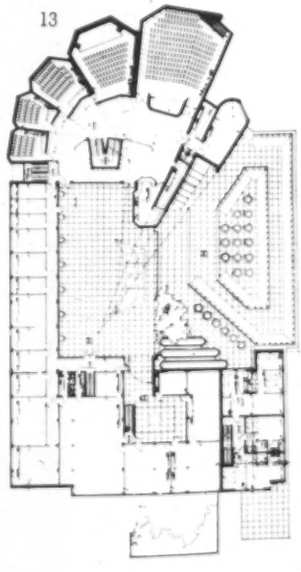

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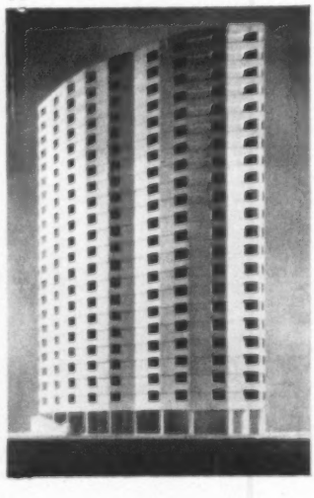

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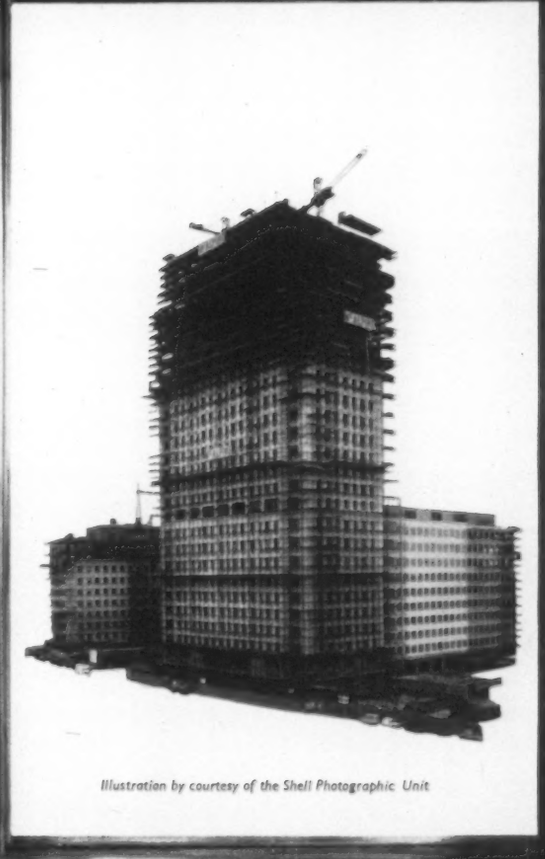

Illustration by courtesy of the Shell Photographic Unit

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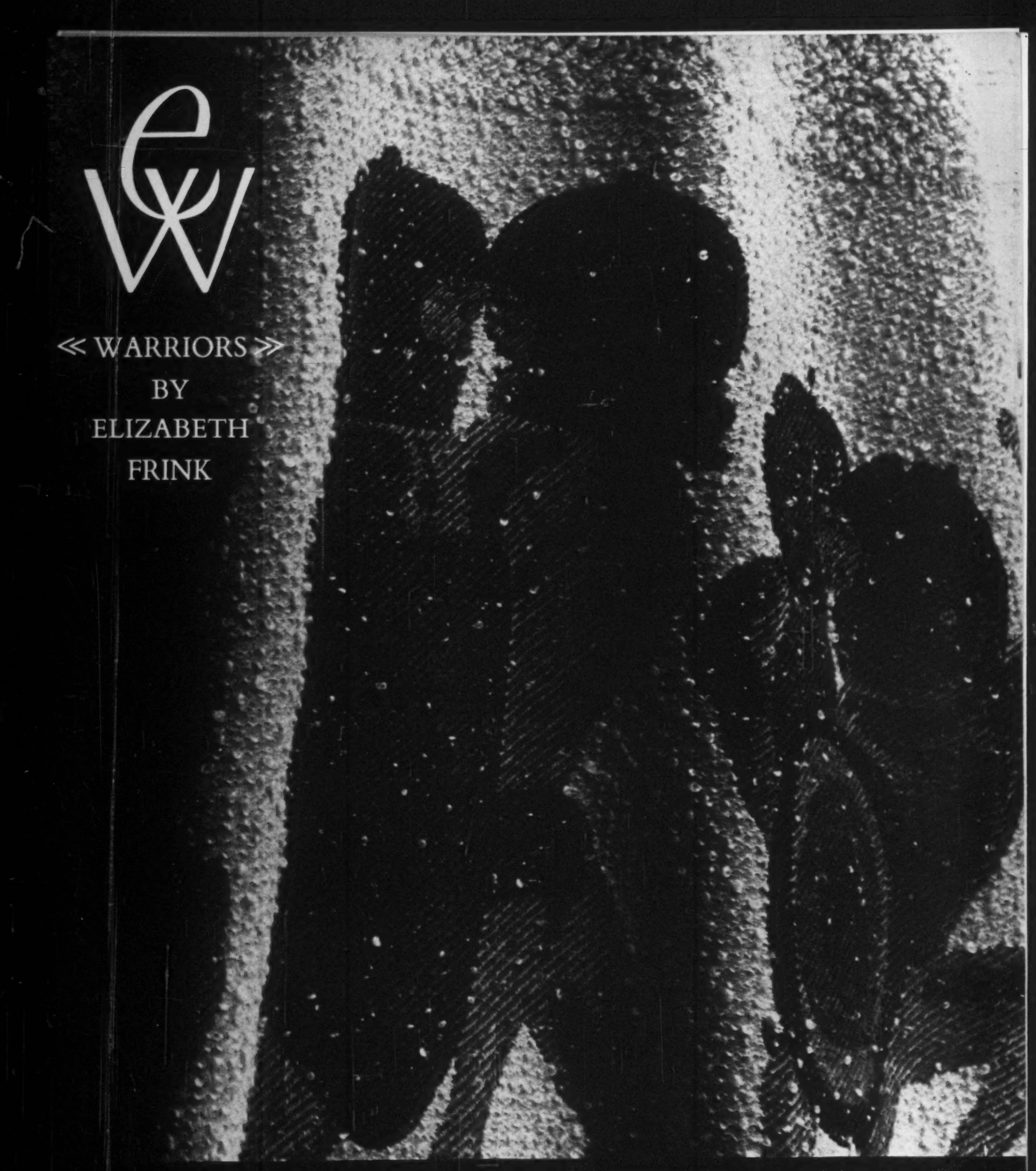


≪ WARRIORS ≫

BY

ELIZABETH

FRINK

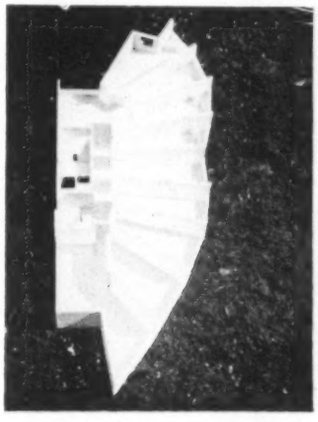
EDINBURGH WEAVERS

102 MOUNT STREET · LONDON W1

Aalto

at MIT, but there offered no gains in corridor length. Here, given uncommonly drastic plan-wise organization, Aalto has achieved the equally uncommon feat of producing what is virtually a point block with all its rooms facing in the same direction—the actual difference in orientation of the windows between one end of the façade and the other is less than forty degrees.

15

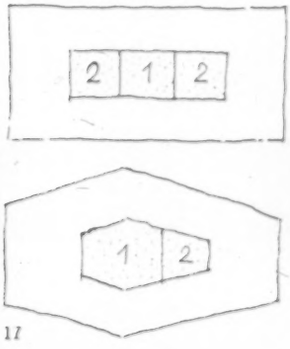


HERZOGBAU: *Stuttgart*

16

While slabs, stars, Y-plans, point-blocks and other tower-plans come and go, the so-called lenticular plan bids fair to become the one real constant among tower forms, persisting from one generation of office-blocks to the next. Among the most interesting recent examples of the type is the cleanly-detailed *Herzogbau*, 16, in Stuttgart, designed by Otto Jager and Werner Muller. The plan, in this case, must be the tubbiest and fattest yet built, but the justification for the form, is—as ever—internal circulation, as the architects' sketches make clear, 17 (1, circulation; 2, service spaces).

However, the *Herzogbau* has the added interest of being fully motorized—admittedly it has a commercial garage and car-sales agency occupying most of the enclosed volume at ground level, which is clearly a special case, but this has been extremely well handled, 18, and there is parking for thirty cars in the basement.



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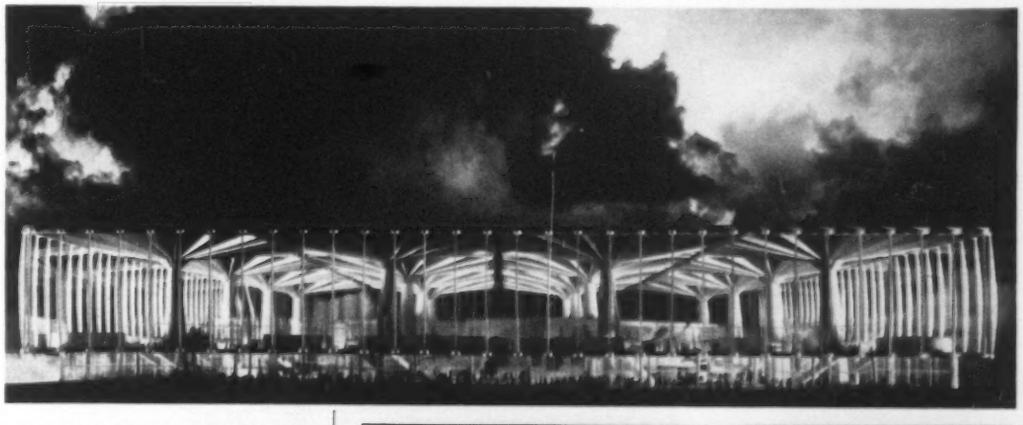
18

E.I.L.

Congress Hall in Turin

Nervi's design for the Palazzo to house the Espozione Internazionale del Lavoro at Turin '61, marks his full entry into the realm of representational architecture, the kind of ceremonial buildings by which a culture asks to be judged. His scheme, seen on the cover of this issue and in a suitably stormy neo-Classical-type perspective in 19, was unanimously acclaimed by the jury, which is hardly surprising, since what has been seen of the other entrants suggests that those that were of any architectural merit at all were mostly afflicted with that involuted and introverted cleverness that increasingly confuses Italian design today. The Nervi project, on the other hand, offers a comprehensible structure and space,

19



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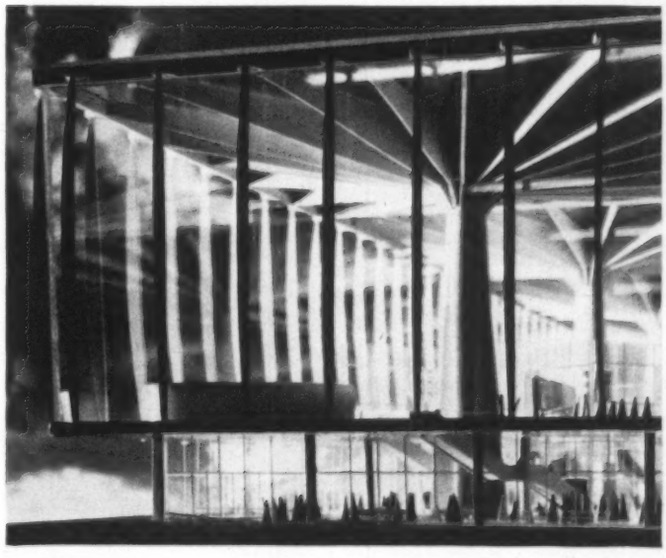
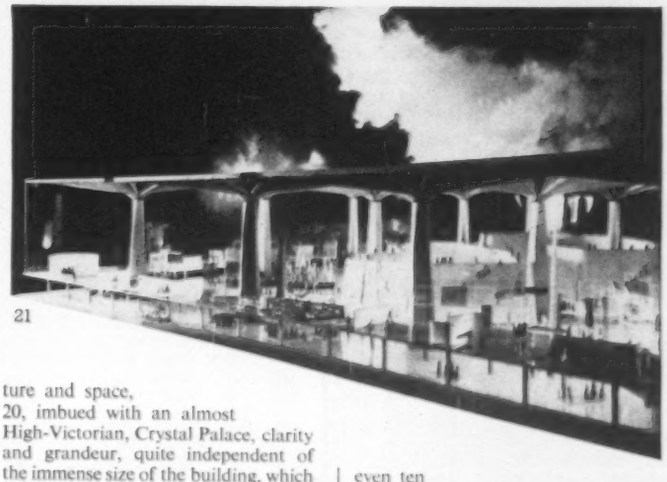




21

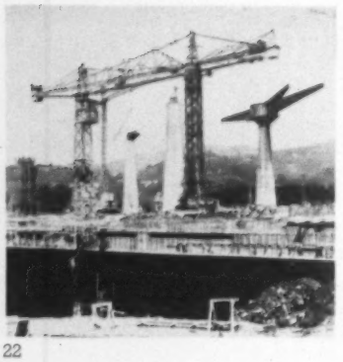
20, imbued with an almost High-Victorian, Crystal Palace, clarity and grandeur, quite independent of the immense size of the building, which will outbulk either St. Peter's or the Coliseum.

Conversely, one must hope that the final disposition of the exhibition structures will do less to confuse the interior, 21, than the model suggests—the lesson of the Dome of Discovery still remains to be learned, it appears, even ten years after the event.

However, it also appears that Nervi is far from too old or set in his ways to learn and experiment structurally. For the great umbrellas that form the roof he has departed even from the pretence of reinforced concrete that goes by the name of *ferrocimento*,

Nervi

and has used nakedly apparent steel, 22, for which the engineer was Gino Covre. This mixed construction—concrete columns, steel beams—is justified by Nervi on the grounds of simplicity and speed of erection as compared with any system of homogeneous concrete construction. No system of vaults or saucer-domes, or even of pre-cast elements requiring grouted joints, could have been hoisted and placed with the ease of these nearly-flat cantilevers.



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23

JAPANESE PALACE

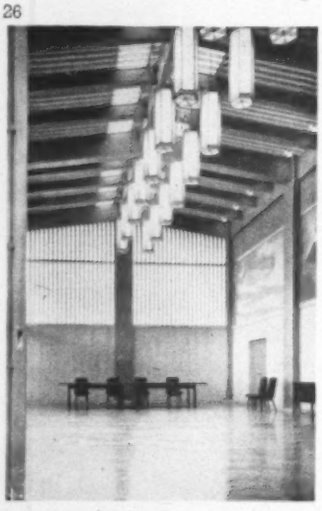
Taniguchi and domestic monumentality

If ever a man had a delicate design problem on his hands, it was Yoshiro Taniguchi when he was entrusted the task of designing the new palace of Prince Akihito of Japan, 23. The building, as completed, may not strike Western eyes as immediately remarkable, but set it against even the little that an educated westerner knows about the cultural background, and it becomes remarkable that he was able to design any building at all. Here is a building to house a Prince of a line that is still, in some way, divine and eternal to the bulk of its subjects, yet has decided to modernize and democratize itself by permitting a Prince of the blood to marry a commoner—a Western equivalent could not even be found by making scandalous proposals about the College of Cardinals.

Taniguchi, who is a sophisticated designer with a live sense of the rhetorical and symbolic qualities of monumental themes (AR, Marginalia, March, 1959), appears to have made his basic approach a mating of the monumental and informal aspects of traditional Japanese architecture, plus those refinements of Western technique that such a theme can absorb. Thus, many of the individual elements of the building have symmetrical façades, structures clearly echoing the massive posts of the temple tradition, and monumental steps and entrances, 24, yet a view along the balcony at the top of the steps immediately, 25, recalls the informal *sukiya* tradition that we know best from the Katsura Palace.

Internally, again, the formal halls, 26, resume the monumental tradition, while the more domestic parts take on an almost Western informality, 27. Nevertheless, it must be underlined that the general handling of the structure departs further from the monumental tradition than a superficial examination might suggest—particularly if one compares it with Isoya Yoshida's handling of traditional monumental structure in the Goto Museum of Art, 28, which is little more than the Japanese equivalent of Neo-Georgian, when it is confronted with Taniguchi's square, tile-clad piers standing directly in the reflecting pool.

25



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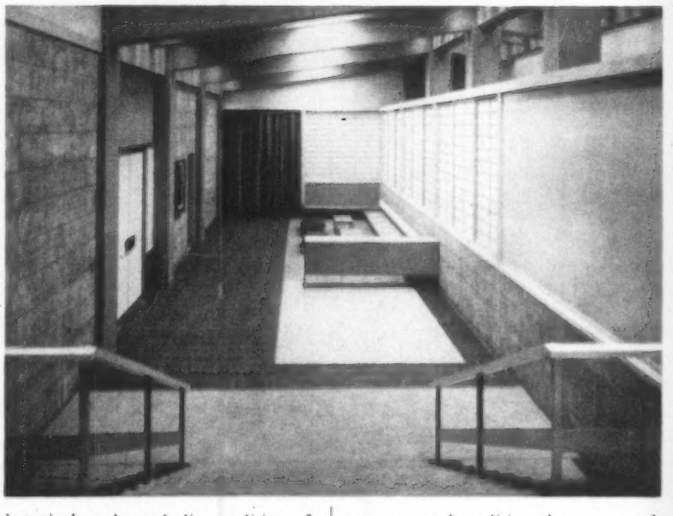

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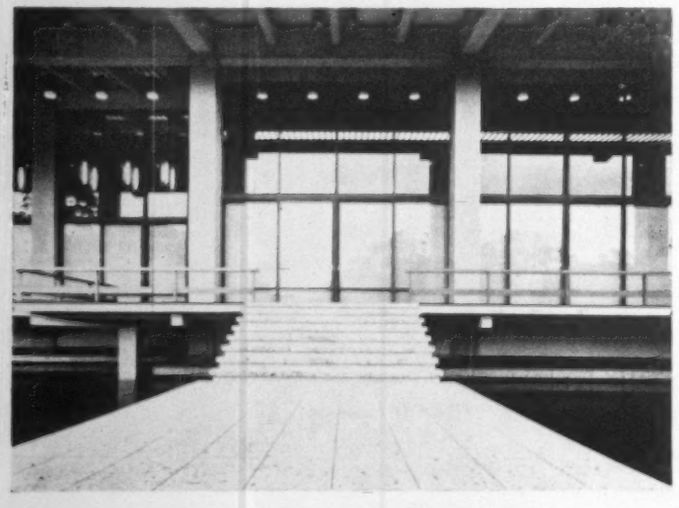

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28

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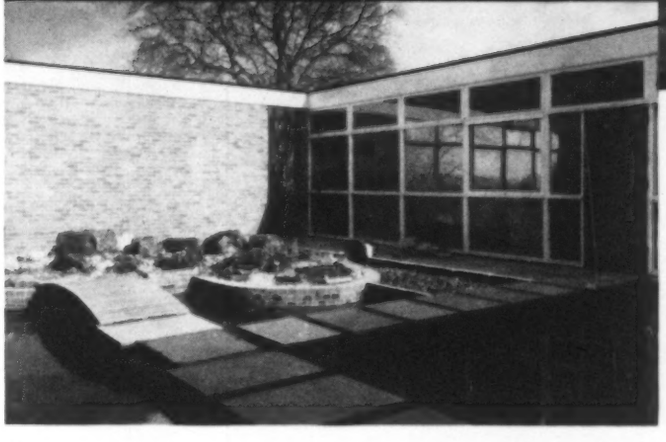

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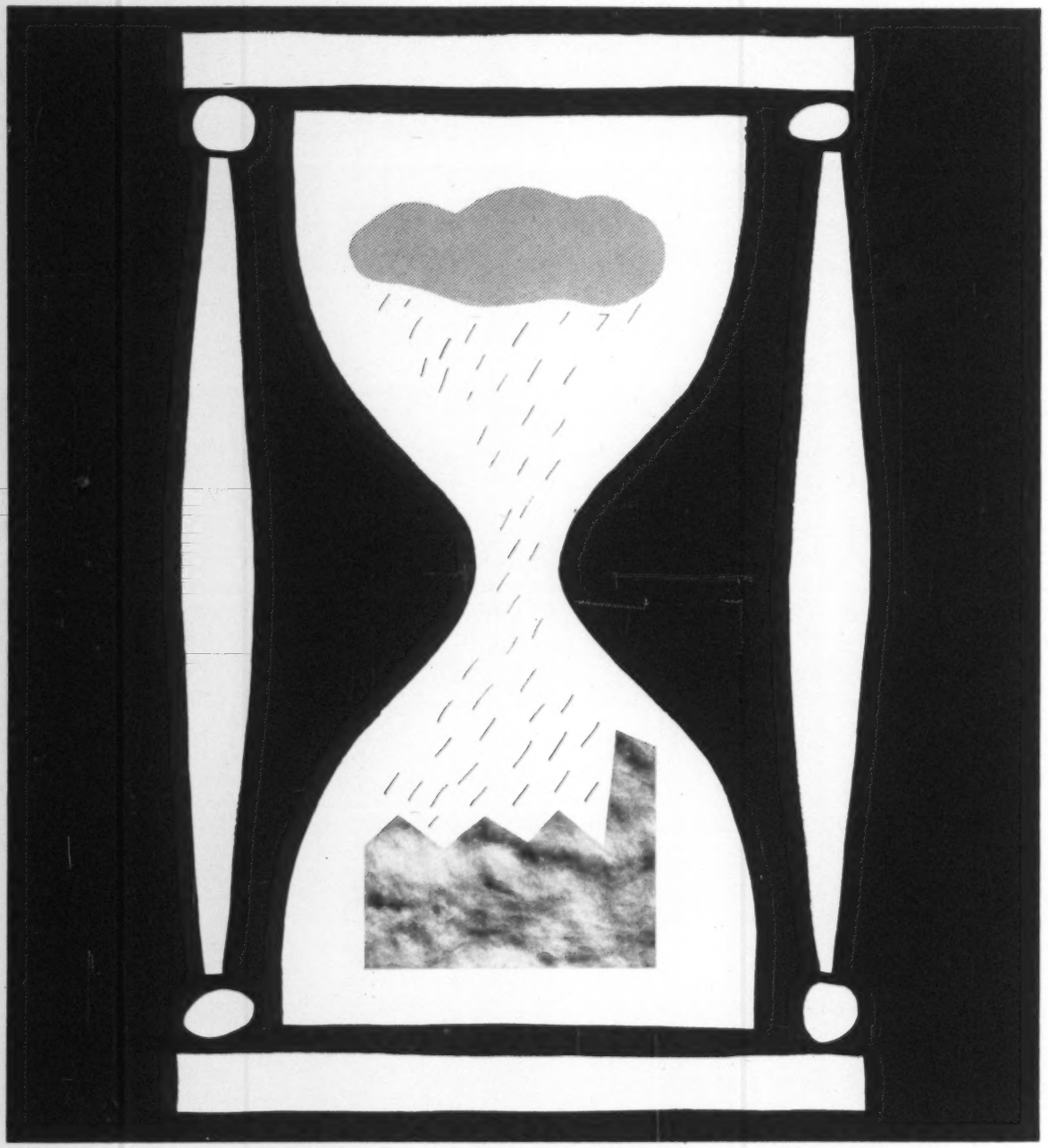

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MARGINALIA

REITH LECTURES, 1960

It is welcome news that the BBC's Reith Lectures for 1960 will return to the visual arts, a subject not touched on in the series since Professor Pevsner's *Englishness of English Art* five years ago. This year's lecturer will be Professor Edgar Wind, expert in both Renaissance and eighteenth-century studies, and the general title of his lectures will be *Art and Anarchy*. Only the tentative titles of the individual lectures are known as yet, but of these, two which may well have some bearing on recent architectural discussions in Britain, are *The Fear of Knowledge* and *The Mechanization of Art*. The series will, as usual, run through the autumn on the Home Service, from November 13 to December 18 inclusive.

EUSTON ARCH

The preservation of a monument the size of the Euston Propylaeum—which appears as this month's frontispiece and in another Eric de Maré photograph below, 1—could never be a casual undertaking. It is one of the largest purely ceremonial monuments in the country, outbulking Marble Arch, for instance, by a comfortable margin, and thus gives a valuable insight into the degree of importance that our ancestors attached to the adventure of rail travel. It also stands in the way of the present plans for rebuilding Euston Station which makes its preservation difficult, though one must recall that the designers of Rome railway station had no difficulty in dealing with a large chunk of Roman wall that was equally badly in the way of their circulation re-planning.

The British Transport authorities began by saying that they would re-erect the arch as a new entrance to the station, but later announced that they would not themselves meet the cost of doing so, which they put very high. It appeared from a Ministerial answer given in the House of Commons on July 19 of this year, that the government were not legally empowered to finance such an operation either. Further homework by the legal advisers of the Ministry of Works has now shown that there are, in fact, no legal objections under the Historic Buildings and Ancient Monuments Acts to a government grant being made for the work. A realistic appraisal of political probabilities does not inspire much confidence that such a grant will be made willingly, but it is, at least, reassuring to know that the question is in the field of policy now, rather than law, and that pressure can therefore have some effect. That being so, pressure must be applied at once and kept up until the future of the arch is secure.

APPOINTMENTS

Promising outcomes to originally unpromising commercial-developer schemes are suggested by two recent appointments in Britain. Justifiable apprehension over the outcome of putting a large area of Brighton front out to tender for comprehensive re-development by commercial bidders will be considerably allayed by the news that Sir Hugh Casson has been appointed town planning adviser to Brighton Corporation for the whole front and central area. This follows a recommendation by the Royal Fine Art Commission that the area to be re-developed commercially was too small.

At the same time, the first positive results from the Minister's firm and detailed refusal of the original Cotton Ballard and Blow scheme for Piccadilly (Marginalia, July, 1960) have appeared in Walter Gropius's provisional acceptance of the position of consultant for a new scheme. This acceptance is conditional on the outcome of Sir William Holford's re-planning of the whole Circus, but if and when it is finally taken up, Dr. Gropius's British collaborator will be Richard Llewelyn Davies, architect of the new *Times* building and newly appointed Professor at the Bartlett school of architecture, University College, London.

COID ANNUAL REPORT

The Council of Industrial Design has just issued its annual report*—the fifteenth, which means that the Council is out of the pioneer phase where it could look for spectacular results and the indulgent support of those who were prepared to ignore any faults for the good of the cause. The Council is now in the phase of hard slogging, sniping and occasional outbursts of direct frontal criticism, in the face of which it must expect to justify itself by works rather than faith.

The report gives some facts by which the works can be judged. On the one hand, the figures for attendance at the Design Centre have recently dropped towards 600,000 per annum. They have since built up again slowly, but still do not reach 700,000—astonishing figures in view of the general impression that attendances were increasing massively. They suggest that the Centre may already have 'found its public' and that influence via that arm may have almost reached saturation point.

* HMSO, 2s. 6d.

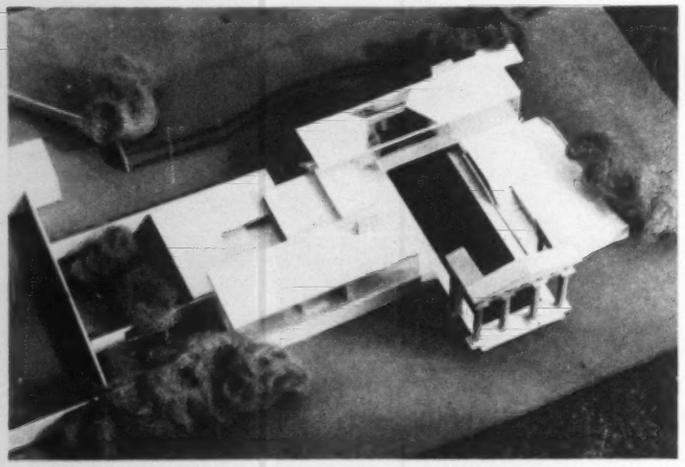
On the other hand, the graph of the paid circulation of *Design* magazine needs no tricks like logarithmic scales to make it appear impressive—circulation has increased almost exactly nine-fold in the ten years since 1949. This again is contrary to impression, which was that resistance to the magazine among some sections of design-business was increasing. The annual report attributes the magazine's success 'largely' to the quality of the photographs, but the contrast between the Design Centre attendance and the circulation figures suggests that it may not have anything to do with visual qualities at all, but be much more largely due to something that the magazine occasionally gives and the Centre does not—facts and figures on the performance of products, detailed analysis of their construction and functioning, appraisals of the way they compare with other products in the field. In other words—the non-aesthetic aspects of design.

PRESERVED PORTICO

'Where else in Short Hills,' enquired the caption to one of Charles Addams's earliest gibes at suburbia 'would you find a house with a moat?' And

1, *the threatened Euston Propylaeum seen from the approach to the station.*

where in Hampshire would you find a modern house with a Doric portico? At Stratton Park, but the portico is no mere estate agent's gimmick, it survives from an earlier house (one of the last by George Dance) on the site, and is to be integrated into a new work by Stephen Gardiner and Christopher Knight in the manner shown in 2. The basic *parti* is to link the portico to the house by a long



2, *looking down on the model of the house at Stratton Park, showing the relation between the preserved Doric portico and the new house.*

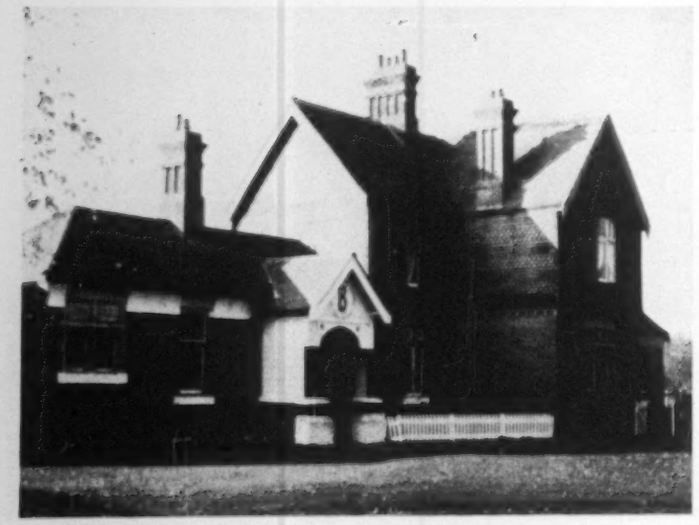
reflecting pool passing under the drawing room, but the operation is rendered visually workable by the client's insistence on unusually high ceilings by current standards in the main rooms (twelve feet) which thus gives the whole design a vertical scale that is comparable to that of the portico, especially as these parts of the house are also raised on a tall white-painted brick plinth.

The scheme naturally invites comparison with Ignazio Gardella's retention of an incomplete colonnade on the spa buildings on the isle of Ischia, but where Gardella simply used the columns and their entablature as a kind of sun-screen to a flat wall, the portico at Stratton Park is given full value as an independent and free-standing element in the composition.

BLUEBELL REDIVIVA

Although it is not an example of the restoration of economic life to a moribund branch-line, on the pattern recommended by SRUBLUK (AR, Marginalia, November, 1955), the rescue of the 'Bluebell Line,' which was a branch off the main line at Horsted Keynes in Sussex, from dismantlement, does show that it is possible for amateur enterprise to preserve choice samples of railwayana under conditions more instructive than fragmentation into isolated museum exhibits. Although the four-and-a-half miles of Bluebell Line does not connect actively with the British Railways network, it has one complete station of its own, at Sheffield Park, and the structure there is in process of being restored, 3, to its original condition and colour scheme (London, Brighton and South Coast Railway, 1882) which in itself is a useful work of industrial archaeology.

No doubt, various sections of opinion will brush off the whole enterprise as 'grown up men playing at trains,' but quite soon school parties will be visiting it to see what railway operation looked like in the heyday of steam, and film and television companies will be queueing up to use it as background for Sherlock Holmes and other period pieces. Indeed, such organizations might do well to invest a little goodwill in the Bluebell Line by helping it to find some of the missing pieces of equipment, such as platform lamps, that it needs in order to make archaeological accuracy complete.



3, *Sheffield Park Station, on the Bluebell line.*

LIBRARY IN PIMLICO

In the ID feature on the children's library in Churchill Gardens, Pimlico (AR, September, 1960), the name of the assistant architect should have read Robert Huddleston, not Middleton.

OBITUARY

G. H. CHETTLE

British architecture lost a man of history in more than one sense in the recent death of George Chettle. Born in 1886, he worked first in the Chipping Campden office of C. R. Ashbee, now firmly ensconced as a historical figure in books on the origins of modern architecture. Later, from just before the beginning of the second world war, he worked as an Inspector of Ancient Monuments at the Office of Works, becoming involved in many ways with the care and preservation of ancient buildings. With John Summerson he was instrumental in the establishment of the National Buildings Record; he served on Ministerial and other committees in connection with the scheduling and preservation of historical architecture; wrote histories, varying from the definitive (on the Queen's House, Greenwich, for the Survey of London) to guide books (on Hampton Court and Kirby Hall), and numbered among his last works the restoration of a monument whose historical importance has only been fully recognized in recent years, Chiswick House.

CORRESPONDENCE

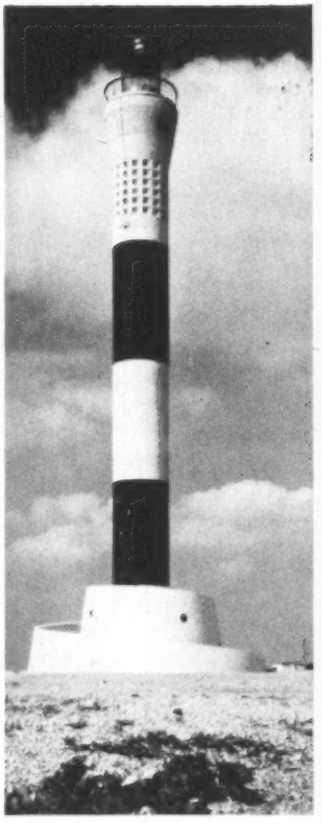
DUNGENESS LIGHTHOUSE

To the Editors.

SIRS,—The 'Nautical Style' discovered to architects by John Piper in 1938 has been pushed into all manner of inland architectural projects, schools, housing estates and midland towns. It is all the more distressing to read your description of the new Dungeness lighthouse as 'this spectacular example of a re-awakened Functional Nautical Tradition,' when in fact Messrs. Ronald Ward and Partners have introduced a certain amount of Inverse-Piper-Nautical into their design.

Mr. Forehoe's article is deceptive and inaccurate in so far as the ramp at the base does not lead up to any entrance whatever and is in fact a pleasant architectural folly spiralling precisely nowhere in the wet whatever the prevailing wind, justifying its existence only as a promenade vantage point. The actual entrance is more sheltered and direct at shingle level unrelated to the ramp.

'This first building of purely functional intent in Britain' also discards function in favour of contemporary decoration in the fog-horn grille where the sound is, of course, projected in a semicircle towards the sea and not



4, *the new Dungeness Lighthouse.*

on the landward side all over Kent as the grille pattern would appear to indicate.

Recognition and visibility of the lighthouse would be improved if the black aggregates were painted white and the whites black in keeping with Nautical Functional Tradition. Black should be at the top.

Mr. Forehoe does no justice to the Trinity House tradition of providing navigational aids which are functional and visually more effective than British air-port, road and rail equivalents.

Sir, flatten the ramp to shingle level, paint the stripes in accordance with maximum visibility and you will have quite a good pole.

Yours, etc.,
GERALD HOLTOM.
Twickenham.

NO TREES IN MANCHESTER

To the Editors.

SIRS,—Mr. Ian Nairn, in his interesting article on 'Birmingham: Liverpool and Manchester,' shows seventeen views of Manchester (including an aerial view), in not one of which is it possible, I believe, to find . . . a tree!

As one who worked in this city during the last war, and who grew to love it, in a queer incomprehensible way, I think that the City Fathers might be persuaded to do something to repair this omission, seeing that their predecessors failed so dismally years ago to plant trees, which by now would have mitigated the 'inhumanness' of its streets which Mr. Nairn mentions —especially Albert Square.

I am sure the plane tree would flourish in Manchester as well as it does in London.

Yours, etc.,
E. A. ENTWISLE.
London, W.1.

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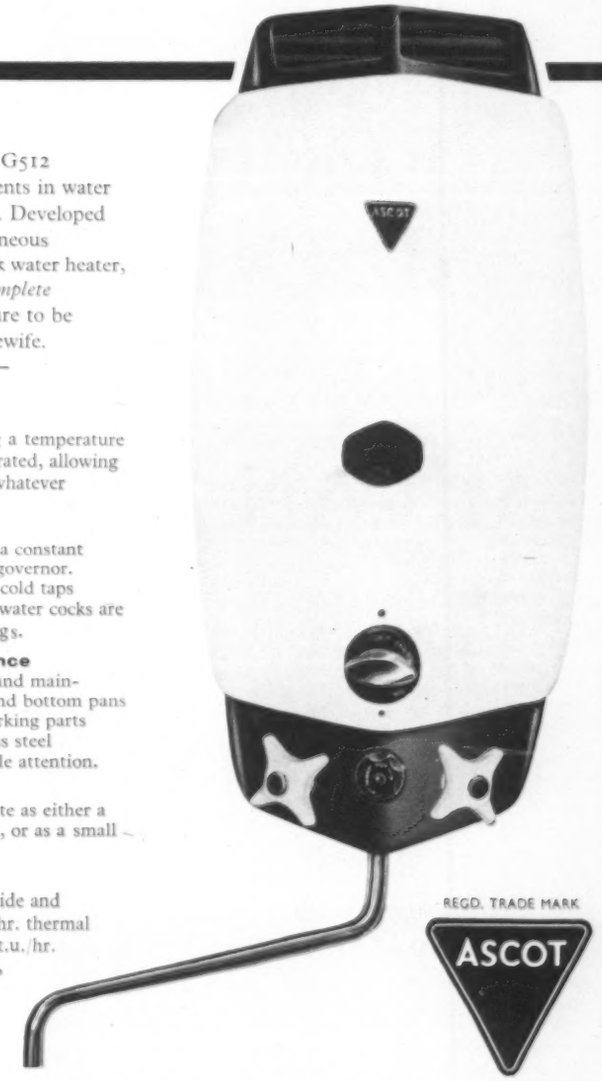

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COVENTRY HOUSING

To the Editors.

SIRS,—I notice that on page 203 of your September issue you have printed my name only as architect for the Willenhall Wood housing area. It is my policy to give credit to all the architects who have been concerned with a particular job, and I should be obliged if you would find space for the following:

Principal architect (Housing): Gwyn Morris; job architects: D. Lyddon and C. Griffiths; electrical consultant: Granville Berry (City Engineer and Surveyor).

Yours, etc.,
ARTHUR LING
(City Architect and Planning Officer).

Coventry.

BOOK REVIEWS

INTERMITTENT ENTHUSIASM

COLLINS' GUIDE TO ENGLISH PARISH CHURCHES. *Ed. by John Betjeman. Collins Ltd.* 30*s.*

BUILDINGS OF ENGLAND: YORKSHIRE WEST RIDING, LEICESTERSHIRE AND RUTLAND, BUCKINGHAMSHIRE. *By Nikolaus Pevsner. Penguin Books Ltd.* 10*s.* 6*d.*

The extreme tardiness of this review is the result of trying out each book on the spot. I have now used Collins's Guide in half the counties of England, and each of the Penguins on their home ground. And from all that labour comes one pathetically trite conclusion: that granted accurate detail and a good prose style, the *only* quality that can make a guidebook fulfil itself is enthusiasm.

All four books share the first two qualities; all four books are, patchily, enthusiastic. This is more noticeable in the Collins Guide, because there the only aim was to stimulate enthusiasm, to get people out of the car seat and into the church porch. Wherever John Betjeman touches the descriptions—and particularly in his long, loving introduction on the five ages of the parish church—then the leaven starts working. The same applies to some of his collaborators, notably Frank Singleton (Cumberland), W. G. Hoskins (Devon and Rutland) and G. G. Pace (North Riding). But too many of counties have dry little entries like '15th century font cover' or '14th century chancel' and we are really back in the atmosphere and inadequacy of the nineteenth-century guidebooks.

In one sense, we are worse off, because an understandable reaction has made us almost impervious to medieval buildings. When an entry about the magnificent Marshland church at Pinchbeck reads simply 'restored by Butterfield, 1863,' a ridiculous inversion has taken place—and an unjustified one, because these medieval buildings were deeper, subtler and more elegant than anything we have done since. Maid's Moreton in Bucks is a nightmare of a church, a Bosch dream in architectural terms. Collins calls it simply '15th cent' which wouldn't get people within a mile of it, and the Buildings of England, although the description is fuller, gets no further into the building—again, a non-committal phrase like 'the outcome of great zest and generosity' is really no better than Kelly's 'large edifice in the Perp. style.'

Wherever the particular county author in Collins's Guide is enthusiastic, whatever his viewpoint, the result is worth reading. If all the authors had written about only the churches that really interested them, not necessarily keeping to strict county boundaries, the result might have been enthralling; doubly so if two authors contradicted one another—the impetus to go and see would be even stronger. If someone tells me that a church as near the end of the world as England gets (north-east of Hull, in Holderness) is a 'quite lovely fragment of a priory of Cistercian nuns . . . ,' etc., I wander there regardless of what I ought to be doing. And I do not feel cheated if when I do it does not seem to me to be as nice as all that: if I cannot see the loveliness fully, then it is probably my loss. The name of this particular place, improbably enough, is Swine.

The Buildings of England series are intended to be textbooks as well as guidebooks. But a textbook without guidance and illumination might as well be Banister Fletcher or the Ministry of Housing scheduled list. Too often that is the case: Markenfield Hall in the West Riding, Church Langton in Leicestershire, Bierton in Bucks (where Collins on Church Langton tempts you, and the twelve-year-old Betjeman-Piper Murray's Guide compels you to have a look at Bierton's crossing piers which it says rightly 'transform this village church into noble architecture'). Many more buildings have what seem to be one of a standard set of adjectives—fine, handsome, dignified—applied without any attempt to discriminate the specific qualities of the building, though admittedly the English language is not much help here. It needs about another thousand words to convey shades of approval: it already has so many to convey shades of disparagement.

And yet, as REVIEW readers well know, Dr. Pevsner does care about buildings, and can express that care better and with greater pan-European perspective than anyone else, when he is moved to. Intermittently, in these volumes, he is so moved, and things like the new Eton College vault, St. Peter at Leeds, the whole of the description of Doncaster (where the Great North Road lorries must clearly have been what the Americans call a traumatic experience) are beautifully done. Why is it intermittent?—the answer, I suppose, is in the tempo of the series, presupposing a month's visit only, rain or shine. This haste would account equally for the lack of detailed discussion of what seems very perplexing on the spot—such as the little nonsense in St. Margaret Leicester where the fifteenth century, unable to know what to do with a thirteenth-century respond, left it and popped their own on top, and also for things like the attribution of Donington Hall to Wilkins as 'an early work.' As he was aged fifteen at the time, it would have been early indeed, and Donington in fact was the principal work of his dad.

I am sure, in this case, that more haste is less speed, and that a guide or textbook which cannot fire the imagination might as well not be written. My case rests on the Roman Catholic church at Eton. The Buildings of England volume says '1914, by Alfred Lord Braye. Small, of stone, with a Continental Baroque front and no tower.' Murray's Guide said 'an interior of unexampled miniature splendour done after the style of a Southern Italian Baroque church.' Murray's sent me there, and Murray's was right, but it did not give the architect. The Buildings of England volume gives me the architect but would never send me there unless I was waiting for the pubs to open. What I want is a guide which will combine both and then tell me a bit about the obviously rather unusual Alfred Lord Braye. Am I asking for the moon?

Ian Nairn

CURACAON CLASSICISM

DE MONUMENTEN VAN CURACAO IN WOORD EN BEELD. *By M. D. Ozinga. Stichting Monumentenzorg, Curacao,* 1959.

POLLACK MIHALY. *By Anna Zádor. Akadémiai Kiadó, Budapest,* 1960.

Neo-classical pediments and giant pilasters are at home in Russia as well as the United States—in the former more German, in the latter more English in derivation, but both essentially the same. Neo-classicism was the last wholly international style, until that of the early twentieth century had spread in the 1930's. So it is only what one expected, to see it illustrated in books from outlying countries—outlying for reasons of distance or politics. Miss Zádor shows that Michael Pollack practised Schinkel's brand of classicism ably and extensively in Budapest and the Hungarian countryside, and Professor Ozinga that Dutch classicism characterizes the official architecture of Curaçao, the Dutch island off the coast of Venezuela. Pollack was born in Vienna in 1773 and learnt from his half-brother Leopoldo in Milan. He remained a confirmed classicist in the 1850's and only once seems to have strayed into the Gothic. The Ledoux-Boullée style, Gilly and more obviously Schinkel must have impressed him, as both his large public buildings and his country houses show. He also designed a number of blocks of flats at Budapest, dignified and restrained, and sometimes interestingly planned.

The Curaçao story is more complex. The Dutch captured the island in 1634, and Professor Ozinga's survey covers building from the late seventeenth century onwards. He also continues his story into the late nineteenth century, and it is not always quite easy to decide whether the houses illustrated belong to a classical survival or a re-revival. More interesting, however, than the official classical buildings are the vernacular ones and especially the houses at Punda with their shaped gables—Cape Dutch, we would call them—and their odd and attractive colonnades on two or even three floors, mostly with homely, stubby columns. They look seventeenth century, though they turn out to be of the mid-eighteenth and later. Curaçao also has a big synagogue of 1732, a Lutheran church of 1763 and a Masonic Lodge by an architect with the English name Chapham.

That Professor Ozinga is fully aware of international literature goes without saying, but it is highly remarkable that Miss Zádor working in Hungary should be able to quote in her ample footnotes articles and papers published in all countries and with an impressively large number of journals (including THE ARCHITECTURAL REVIEW). Her book has at the end a summary of twenty pages in Russian and another equally detailed one in German. The book on Curaçao has summaries to the individual chapters instead. They are in English and amount to well over twenty pages. The book should be of interest to anyone over here who has felt the fascination of Colonial architecture in the British West Indies.

N. Pevsner

SHORTER NOTICES

THE ARCHITECTURE OF JOHN NASH. *By Terence Davis. Studio Books.* 50*s.*

The excellent photographs collected by Mr. Davis make his book the most complete visual record of Nash's work up to date. Unfortunately, however, the catalogue accompanying the plates, while admirably wide in scope, is rather sketchy and disappointing in its lack of depth. This one defect is more than adequately counterbalanced by Sir John Summerson's critical essay which is not only interesting and informative but is also freshly written and pleasantly readable. The book is, on the whole, an attractive and welcome one. It is hoped that Studio Books will continue their venture in architectural biography.

DECORATIVE CAST IRONWORK IN GREAT BRITAIN. *By Raymond Lister. G. Bell and Sons, Ltd.* 35*s.*

A companion to Mr. Lister's previous book on wrought ironwork. It is a rich and comprehensive encyclopedia of information about the making of cast iron and its use as a decorative medium. The book fully reveals Mr. Lister's deep-seated interest and years of practical experience in the field of metalwork. Although factually it improves upon the publication of Messrs. Gloag and Bridgewater, it lacks their concordance of visual material. This is regrettable since ironwork is an especially photogenic subject.

ENGLISH STAINED GLASS. *Introduction by Herbert Read. Text and comments by John Baker. Photographs by Alfred Lammer. Thames and Hudson.* £5.5.0.

A sumptuously produced volume containing 137 photographs, mostly of details, of which 34 are in colour. These are first rate; the text less so, since it lacks scholarship and puts forward uncertain and unenlightening comparisons. Mr. Baker discusses the early history of English glass without reference to its French origin and seems to imply that stained glass was developed in the eleventh century, whereas references to it exist at Werden in the ninth century and at Dijon in the year 1001.

On the other hand Mr. Baker—and his illustrator—properly put a higher value on English twelfth and thirteenth century glass than on the technically more highly developed products of three hundred years later.

U
S T O N
OUT

The fate of the famous Doric arch at Euston Station, one of the most impressive nineteenth-century monuments in London, symbolic of the power and vision of Britain's early railway enterprises, is still uncertain. Plans have been made for re-erecting it elsewhere on the station site when Euston is rebuilt, but the railway authorities say they are not prepared to meet the cost of doing so which they put very high. The arch was designed by Philip Hardwick in 1836. The photograph (and another on page 821) is by Eric de Maré.

John Betjeman

P. MORTON SHAND

P. Morton Shand died last May at the age of 72. He was one of the true pioneers of modern architecture in Britain, since it was his writings (for the most part published in THE ARCHITECTURAL REVIEW*) that introduced to British architects the ideas that were flourishing on the Continent in the nineteen-twenties and 'thirties. They also introduced the work of many great men—Maillart, Gropius, Aalto—who were later to bear household names. Shand was the translator of Gropius's own writings and was the first English critic and journalist to concentrate on modern architecture. Below is a personal memoir by Mr. John Betjeman. At the end is printed a list of the most important articles P. Morton Shand contributed to the* REVIEW*, from which (and from the special issue of the AA Journal on him, for January, 1959, where many of these were reprinted) a clear picture can be obtained of his convictions about modern architecture, and his services to it.*

The contradictory notices that appeared in the obituary columns of *The Times* about P. Morton Shand would have delighted and amused him. He was not self-revelatory. I am grateful for this opportunity of writing about one who led the way to my own generation in the appreciation of good wine, food and architecture. In my mind's ear as I do so, I hear his chuckle and the click of those ill-fitting false teeth, followed by some sharp remark ending characteristically with 'What? What?' Below the outward grumbling there were underlying affection and integrity—and always humour. The more one got to know him the more one came to admire and love him.

We never called him 'Morton' nor had heard of his Christian name Philip. He was always addressed by his initial and full name as though it were one four-syllabled word. His father, Faulkner Alexander Shand, was a well-known pioneer of psychology, a branch of learning which his only child, P. Morton Shand, did not admire. He was brought up in an atmosphere of plenty of capital cautiously expended. His mother was descended from the Hopes of Liverpool and he was a cousin of Sir Howard Robertson.

There were other unexpected things about him. No one would have thought that this nonchalant, tall man with his fair hair, distinguished nose and elegant manners was a conscientious and reliable journalist. He was always punctual with his copy. He never demurred when asked to do humbling tasks such as supplying captions for some dreary series of photographs of, let us say, door handles in the 'Craftsman's Portfolio' in THE ARCHITECTURAL REVIEW of the 'thirties. The copy arrived dead on time in single-space typing with corrections neatly made by thick block-

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There were other unexpected things about him. No one would have thought that this nonchalant, tall man with his fair hair, distinguished nose and elegant manners was a conscientious and reliable journalist. He was always punctual with his copy. He never demurred when asked to do humbling tasks such as supplying captions for some dreary series of photographs of, let us say, door handles in the 'Craftsman's Portfolio' in THE ARCHITECTURAL REVIEW of the 'thirties. The copy arrived dead on time in single-space typing with corrections neatly made by thick block-

ings-out in ink and substitutions in his minute flowing script which, like his appearance, never changed throughout his life. Though he had been educated at Eton and King's and spoke French and German well, he preferred quantity surveyors to architects, craftsmen to designers and simple peasants to complicated suburbanites.

His two outstanding characteristics were a God-given sense of quality and a complete, almost childlike, honesty which prevented him from earning a comfortable living. He would not have liked that phrase 'God-given.' 'I have never been an atheist, as you described me to your charming former secretary,' he wrote, 'but I cannot stomach the idea of worshipping a deity who expects to be praised like a present-day politician.'

His sense of quality is shown in his writings. Mr. Ronald Avery, the Bristol wine merchant, was amazed to hear that I knew P. Morton Shand. 'Is he still alive? He is a man I want to meet more than anyone else. His book on wine is the best that has been written, and we wine merchants use it as a standard work.'* His appreciation of the qualities of architecture came from an early interest in civil engineering, in railways, bridges, cantilever constructions and the use of new materials. He made extensive tours in France after the '14 War, the country which he preferred to all others and where he had some interest in a silk factory in Lyons. He also visited Holland, Switzerland, Finland and the Germany of the Weimar Republic. Wherever he went he liked to find out the engineers of structures he admired, and later he came to study architects whose work had affinities with civil engineering. Fluent French and German brought him into touch with them. Thus he obtained the copyright in England of photographs of the work of Continental architects who were building in a manner which had not yet been seen in this country. He was a pioneer in England of the interpretation of the work of Gropius and his colleagues in the Bauhaus. His acquaintance with Alvar Aalto first made that architect's work known over here, and P. Morton Shand came from Finland with the first specimens of Aalto's bentwood furniture. He never saw architecture in terms of movements and trends. He was interested in the personalities of the men whose work he knew and the less they said about themselves the more he liked them.

At the time when P. Morton Shand started to write for THE ARCHITECTURAL REVIEW, in the late 'twenties and early 'thirties, it was ceasing to be the organ of the neo-classic school which it had been under the able editorship of Sir Mervyn MacCartney. The reticent guiding genius of H. de C. Hastings was turning it into the pioneer periodical of what has come to be called 'contemporary' architecture. There was a noticeable difference between the illustrations in the advertisement pages—which were still of classic banks and bronze doors—and the editorial pages which were full of austere Continental photographs, the copyright of P. Morton Shand, and accompanied by his articles and captions. At this time P. Morton Shand's friends were Paul Nash, Frederick Etchells and Osbert Burdett, and their work, too, appeared in the REVIEW's pages. *The Architects' Journal* was then a less adventurous weekly edition of the REVIEW. *The Builder* under Mr. Plume remained the repository of the old school, and *The Architect and Building News* tried to be a half-way house. P. Morton Shand remained loyal to the REVIEW. Soon we had our own young architects building in the new manner. Many of your more elderly readers will recollect how what Auden, Spender and Day Lewis were to poetry, Wells Coates, Serge Chermayeff and Raymond McGrath were to architecture in the REVIEW. The Modern Architectural Research Group was formed with P. Morton Shand as its first secretary, doing all the translation and organizing. Indeed, if it had not been for him the group could not have come into existence, and Gropius, at the dinner given to him on his arrival in England, paid tribute to P. Morton Shand.

When the new fashion spread through the architectural schools, ousting the taste for Stockholm Town Hall and making even Heal's shop seem old fashioned, and when Hitler's activities in Germany brought Bauhaus architects to England as partners in progressive firms, P. Morton Shand began to exercise that discrimination which always got him into trouble. He was no Fascist or Communist: he was a strong individualist. 'Impersonalism kills every human value it touches,' he wrote. But he objected to those he thought were cashing in on the new movement and invented devastating nicknames for them. His sense of quality made him look for the personal note in an architect's style, and he was very suspicious of the user of slick phrases.

His prejudices were thought by some to be unreasonable. They generally had an understandable basis. For instance, his dislike of port was because he thought that, being mixed with brandy, it was a doctored wine. Old architects like C. F. A. Voysey who were being heralded, to their dismay, as pioneers of modern architecture, could not understand P. Morton Shand's rooted objection to Gothic. This was because he had reacted from the taste of his parents' generation which favoured this style on picturesque grounds. On the other hand he was interested in the Morris movement and particularly in the work of Norman Shaw, Lethaby and Philip Webb. He continued this interest at a time when, remember, we believed that handicraft was out for ever and that the new beauty could only be created by machines. His taste in the architecture of the past was for the Regency and Napoleonic periods. Like Gropius, he thought that modern architecture was the heir of the later work of Soane and Schinkel. Towards the end of his life he began a study of the Romanesque in France, the nearest he could bring himself to Gothic. His other strong prejudice was against America, not against the fine new architecture of that country, but against its way of life, its standardization and its influence for the bad on the English language.

His prejudices were part of his honesty and integrity. He had an exciting eye for picking out simple and well-proportioned buildings and increasingly appreciated what remains of English country building. In 1956 he wrote to me 'Do you know—but I'm sure you must—the College of St. Mark at Audley End? I discovered it purely by chance last Saturday

*Republished and revised 1960 *A Book of French Wines*. Cape 30*s*.

when I went to see the (rather disappointing) former palace at Audley End—but it has one of the loveliest parks in England. The "College" must be almost unique, and I am hoping that it has not been discovered. Two tiny totally enclosed garden courts in simple, and apparently untouched, fifteenth century brickwork provide separate "flats" for the aged clergy and their wives in decently human and moderately dignified surroundings. It is reached down a narrow village street, presumably of the same period, consisting of identical plastered cottages on each side. I was entranced with it. The place is as remote as a hermitage.'

His respect for the individual quality of design made him an advocate of regionalism. 'The trouble is that so much is offered to our eyes, or rather forced under them, that we no longer know how to use them for *ourselves*. The films and motor cars have accustomed us to see everything in motion, which means not even partially, and always with the distortion lent by speed. We are no longer able to *stand* and look long and deeply, still less patiently and with the sort of mental coaxing necessary for seeing the intrinsic quality of anything underlying its "humdrum" appearance. And the result is we no longer know what we want to look at, or can select for ourselves, unless we consult a guide book.

'Also the territorial uprooting we have all suffered—consciously or not—has blunted our sense of locality; we can no longer "read" places or tracts of country to our own imaginative glosses or evocations. It is strange but true that there is less regional literature in England than in almost any other country. Blackmore is always quoted as the outstanding exception—or rather was—before Hardy became known.

'But (merits apart) Blackmore is hardly more truly regional than the Brontës. Both wrote about wild rugged country, but their wildly rugged country might have been almost anywhere else than Exmoor or the wolds. I ascribe this to the curious timidity of nineteenth-century English fiction which so studiously disguised the names of towns and counties described—those "Oxbridges" and "Loamshires"—perhaps from dread of the incalculable repercussions of the English law of libel. It thus did incalculable harm by generalizing our visual perception of county towns and rural districts, and making a common denominator of them such as has been realized in post-1918 large-town suburbs. Hence we have lost our sense—and relish—of the individual features of each, and are no longer willing to believe that they exist, or, if so, are worth nosing out. Chatham (I mean apart from Rochester, which is purest Dickens) is one of the most individual towns I know. But the only description of its wild military violence and licentiousness in Victorian days (and it's a wonderful one) is by the French "collaborationist" author Céline.

'I remember during the first decade of the "discovery" of William Blake (about 1904 I suppose) being immensely struck by a line in one of the Prophetic Books "*the corner of Poland Street weeps.*" An enthusiastic young don explained genially "of course you understand that all that sort of imagery of his is purely metaphorical." It is nothing of the sort; it is directly factual in an imaginative sense. Go and look at the corners of Poland Street even to-day, and you will see that they do weep, or at any rate that Blake felt and believed that they did weep. And isn't the name *Poland* an evocation of continual historic weeping in itself? Blake and De Quincey evoke the essential atmosphere of those sordid brick-built London streets as no one before or since has come anywhere near to.'

P. Morton Shand (whether as a result of his experiences with the British Reinforced Concrete Co. and the Design and Industries Association, I never discovered) took great exception to Public Relations Officers, 'Executives' and all the jargon of advertising. He saw in newly coined words like 'cladding,' 'floorscape' and phrases like 'blue print for betterment,' the unseeing slickness of those who follow a fashion merely to get for themselves power or money. He himself never had either, nor particularly wanted them. His sense of the goodness at the heart of what was well made enabled him to see through the 'streamlining' and other dodges of 'industrial designers' such as three-cornered tea pots and square kettles. Neither did he like the language of art historians. Some of the last letters I had from him indicate his state of mind:

'The coolies' compound which is to be built round the amputated stump of the old Imperial Institute is, I am informed, considered an outstandingly progressive advance in contemporary design. There can be no question of monotony or bareness about it because "richness will be imparted throughout by ingenious variety in the 'cladding.'" Let no one in future dare to cast a stone at the Victorian speculative builder.

'I have frightful nightmares, and no wonder, for I am haunted by a gnawing sense of guilt in having, in however a minor and obscure degree, helped to bring about, anyhow encouraged and praised, the embryo searchings that have now materialized into a monster neither of us could have foreseen: Contemporary Architecture=(the piling up of gigantic children's toy bricks in utterly dehumanized and meaningless forms), "Art" and all that. It is no longer funny; it is a frightening, all-pervading menace.'

He was one of those unlucky people who, with an intense interest in the visual arts, had no proficiency in them. His fastidiousness, born of his sense of quality, is shown instead in his writing. 'I wish you would write or broadcast on the horrors of reviewing. How strange it is the way, after a couple of years or so at the job, one at times suddenly finds it impossible to think of anything else sensible or honest to say—or cannot complete a sentence without tumbling into horrible clichés or use of the most banal and threadbare adjectives, which invariably sound forced, flattering, insincere or patronizing when one reads them. Add to that the harrowing restrictions on length, and the nightmares which the proper and improper use of those inescapable words "it," "this," "that," "which" "and," present as one grows older and tries to be more careful and precise. Has it struck you that nearly all of us use our prepositions more and more vaguely, and as often as not incorrectly, because idiom more and more ignores the proper one to use? And it has become almost impossible for one adjective to say what one means without others to qualify it. Modern writing is a

string of strung-out adjectives held together by unending "ands." On top of which I gather one is supposed to keep abreast of the "schematic" literary work poured out by American university presses. Oh God, oh "literary work." '

These extracts of letters written to me in the last years of his life may give the impression that P. Morton Shand became embittered. This was not so. Mr. J. Craven Pritchard recalls travelling with him to Estonia in 1932 or 1933 when they had to go through the Polish corridor and Lithuania and Latvia. He insists on getting out of the train in each country and telling the customs and other officials how delighted he was to be in their wonderful country, but each time referring to the wrong one, causing great fury. His last years were made happy by his living in France, the country he liked best, near Montpellier, and visiting Romanesque churches and looking at trees. I have had to leave out the many funny things he said because of the law of libel. I have not mentioned either his generosity with his time and with his pen on behalf of those whose works he admired. He was saved from bitterness by his essential humility. When his contemporaries had handles added to their names or letters put after them, he rejoiced. He should at least have been made an honorary member of the RIBA. He would have been invaluable on the Royal Fine Art Commission as one who stood above the opposing cliques of architectural schools of thought, and saw architecture with learning and affection, and who was never taken in by pretentiousness. But it never occurred to him that he deserved such recognition and employment of his talent. He was content to remain to the last without letters or titles—P. Morton Shand.

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His two most substantial contributions to the REVIEW were a special number on the architecture of iron, steel and concrete (November, 1932) and a series of articles under the general title 'Scenario for a Human Drama' published between July, 1934 and March, 1935. The former, for which he wrote most of the text (including two important historical articles) and supplied many of the illustrations, came at a key moment when the impact of these materials on modern architecture was beginning to be appreciated. It introduced the achievements of the great European civil engineers, the bridges of Maillart and the work of some of the leading modern architects to English readers.

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His other contributions were mostly on the smaller scale of book-reviews and the like with the exception of two important articles: one (November, 1929) entitled 'Underground,' was a full-scale appreciation of the influence that London Transport, inspired by Frank Pick, was then exercising on design, and the other (May, 1941) an obituary article on the Swedish architect Gunnar Asplund.

FOUR FOREIGN HOUSES

As James Gowan observed (AR, December 1959) 'The house is deeply rooted in traditionalism' and nothing, in retrospect, makes this more clear than the would-be anti-traditional houses of the early Modern Movement, in which—despite the radical enthusiasms of their designers—the domestic functions were still crammed into built receptacles as boxlike and rectangular as those of the eighteenth century. The dissolution of the house-as-box has been astonishingly slow, but where it persists now, as in Mies van der Rohe's Farnsworth house, or Bertel Saarnio's at Porvoo, illustrated on these pages, it is usually for conscious and clearly understood reasons of function or aesthetic intent, not out of cultural inertia. The alternatives, as the other three houses on these pages show, two being unusual variations on the patio plan, are now as various as circumstances permit and imagination demands: the destruction of the Box, as Frank Lloyd Wright demanded.

1. AT CUERNAVACA, MEXICO architect, Arnold Wasson Tucker

1, the approach to the house between guest-house and garage. Beyond is a covered way leading to the living-area.

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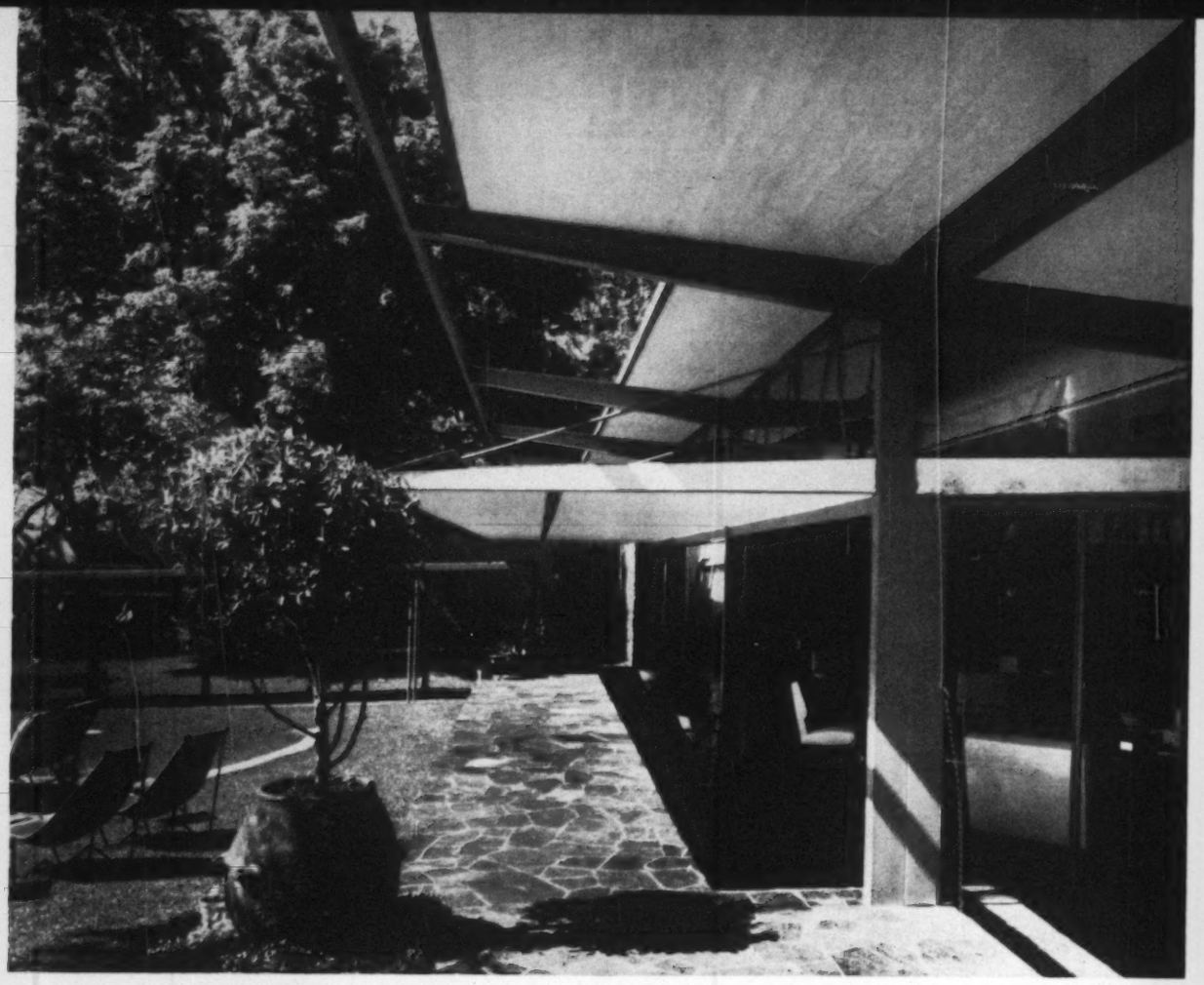
HOUSE AT CUERNAVACA, MEXICO

photographs by Brehme



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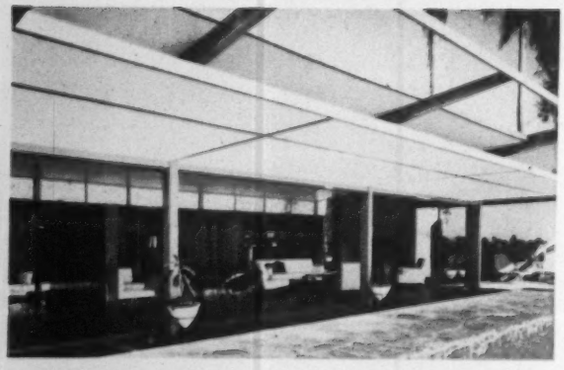

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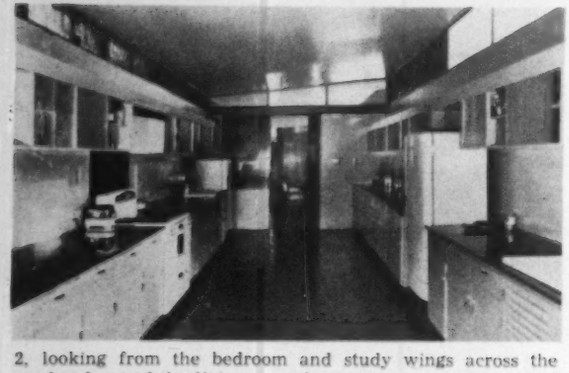

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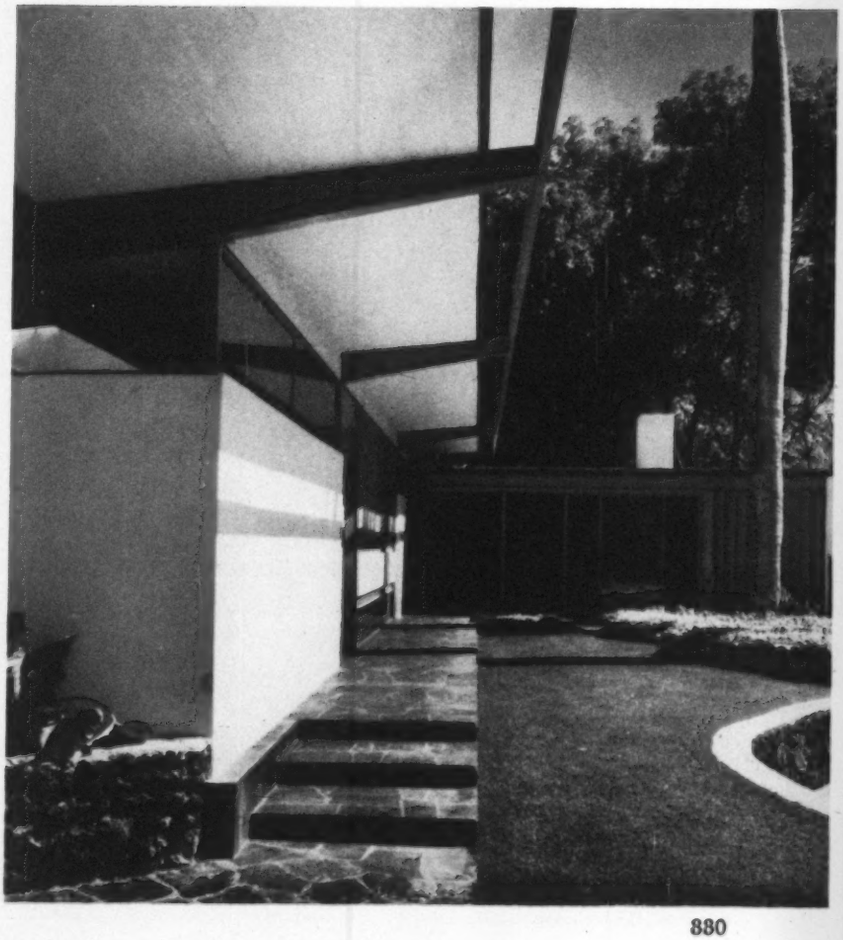

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2, looking from the bedroom and study wings across the garden front of the living-area. In the distance is the end of the covered way leading from the entrance—see preceding page.
3, the dining-living area from the terrace.
4, the kitchen, which has screened, adjustable windows at ceiling level.
5, looking across the living-room terrace towards the study wing; that is, in the opposite direction to 2.

perspective view from the west

The site is large and sloping, surrounded with fine old trees except to the south, which has an open view of the mountains at Cuernavaca, an exclusive resort one hour's drive from Mexico City. Several Royal Palm trees growing on the site have been preserved by planning the house round them.

The climate is semi-tropical, cool at nights in the winter; hence the large fire-place in the living-room, the smaller one in the study, and electric heaters in the bathroom. Heavy summer rain dictates covered circulation to connect the somewhat scattered units. The house, which has been designed for an elderly single man, sprawls round the rim of the site, which is bounded by a beautiful old stone wall. Advantage was taken of the ground dropping to the south to place the garage and guest house squarely across the entrance, and to connect this to the main house by a covered way. This left the panoramic view south from the living-room undisturbed. The elements of the main house were again separated to preserve the existing palms. The only two-storey element is the servants' quarters, located at the north-west corner with a private service patio, etc. The servants' bedrooms were elevated to give ample patio-space. A series of covered passages and cantilevered roofs offer protection against the seasonal rains. The watchman's quarters are in the far south-west corner, where he can effectively control the entrance gate. The main bedroom wing is a complete unit in itself, connected to the living-room only by continuation of the roof slab.

The house has a framed structure of exposed welded steel, painted. The roof-slab, which has a five-degree slope, is of reinforced concrete, covered with tar-paper and 'tezontle,' a soft rust-coloured volcanic stone. The surface treatment of the roof is important as the garage and guest house are seen from a higher level from the main living terraces. All windows are metal-frame. Exterior walls are plastered, rendered and finished white. Contrasting garden walls are of black volcanic stone (piedra china). Floors are of tile, mosaic or black Taxco stone. All the built-in fittings are of 'parota,' an oily tropical wood.

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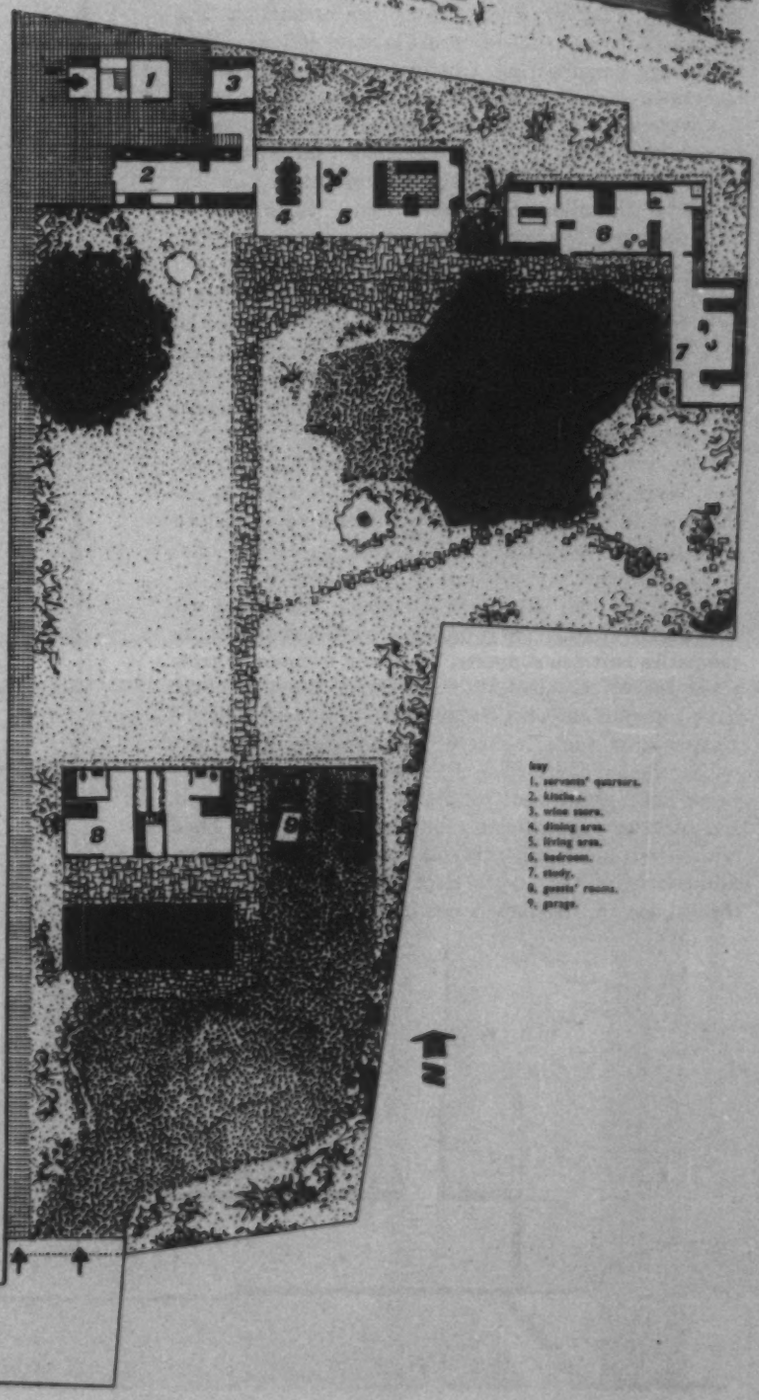
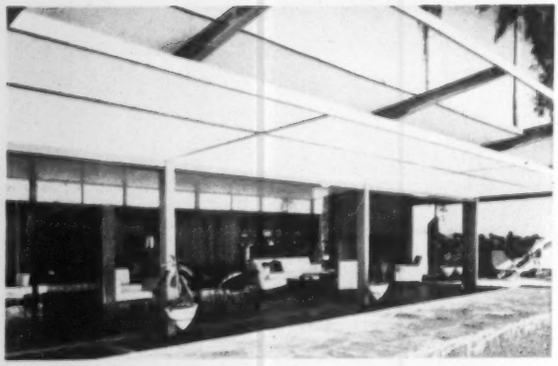


ground floor plan

HOUSE AT CUERNAVACA, MEXICO

photographs by Brehme

2



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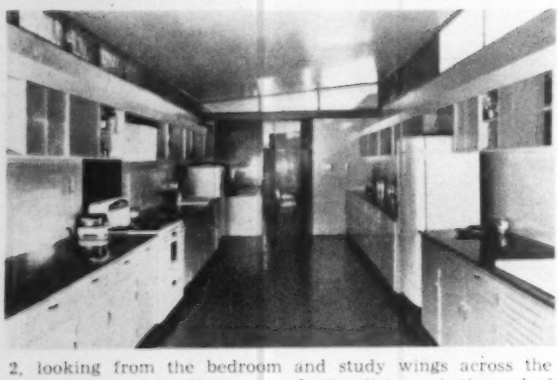

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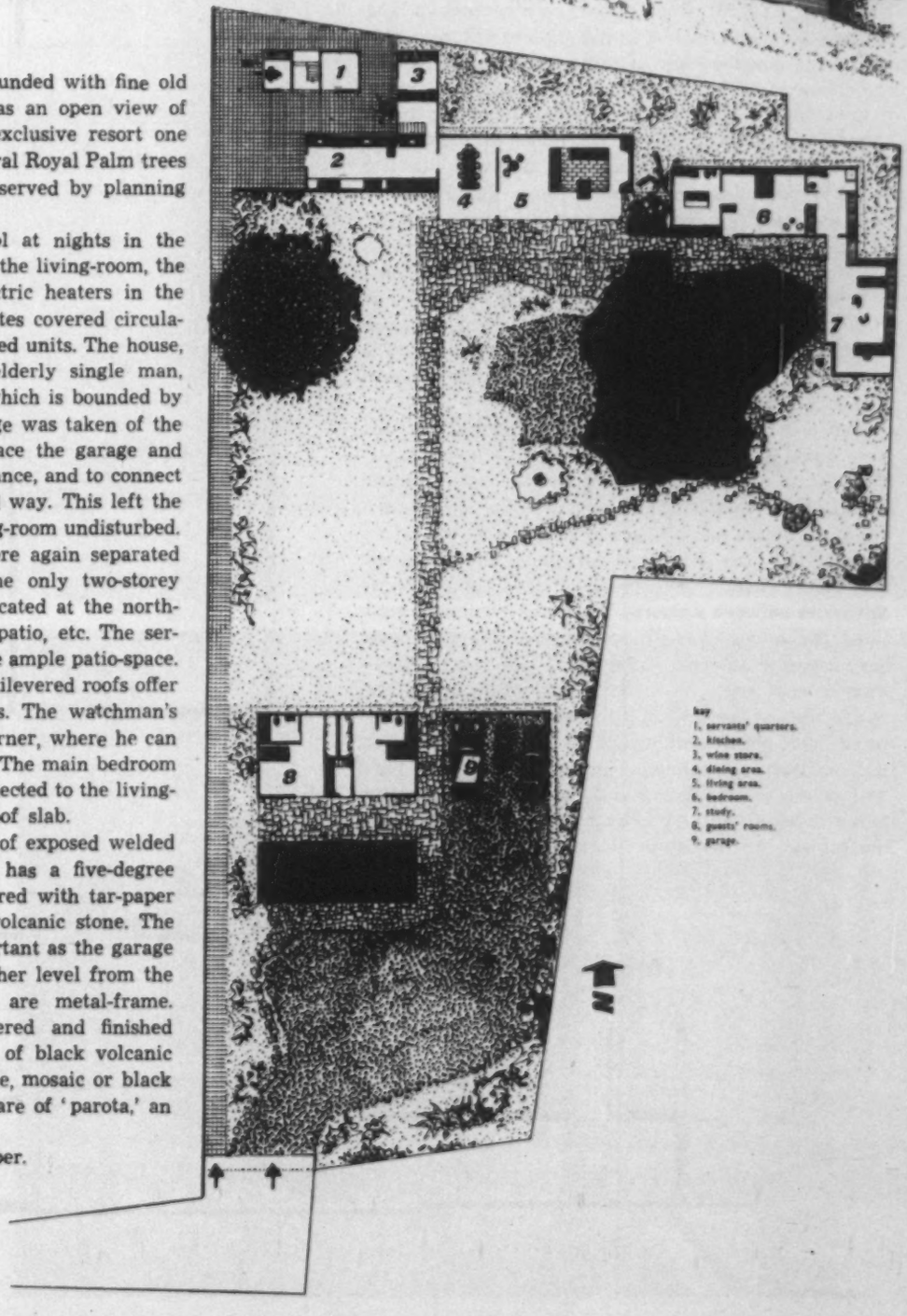


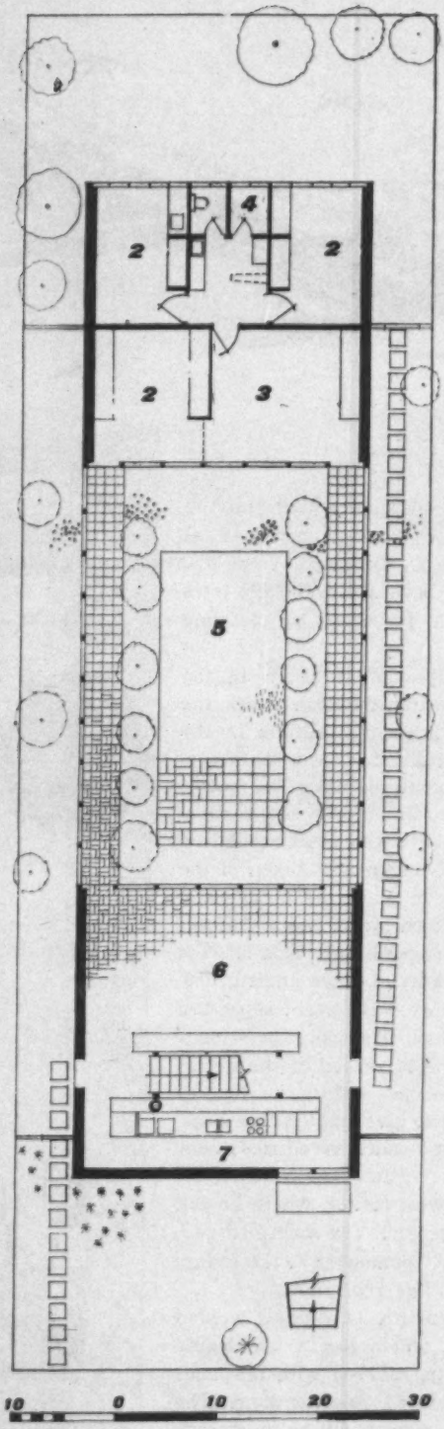
ground floor plan

2. AT MELBOURNE, AUSTRALIA

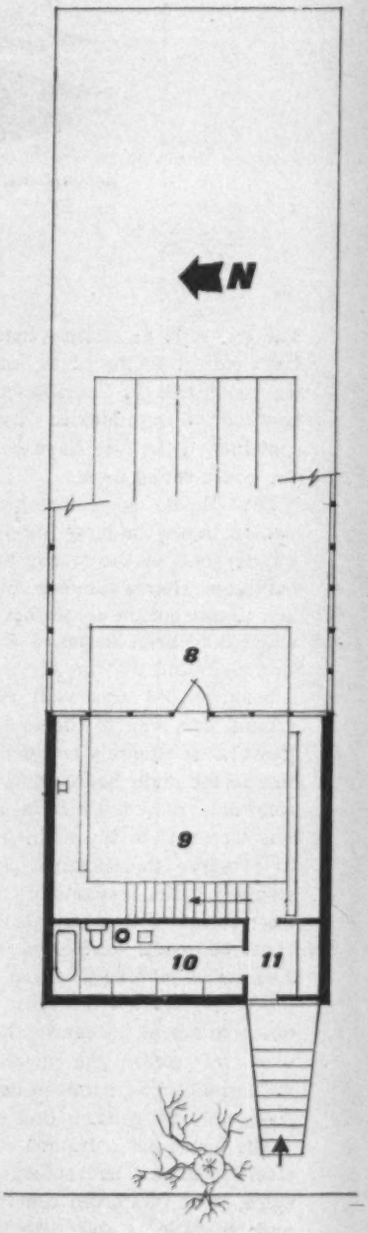
architects: Grounds, Romberg & Boyd

The house is for Mr. Robin Boyd's own occupation. The site was a narrow slice of an old garden, 40ft. by 126ft., with high neighbouring buildings—and the threat of higher—in a residential area of the city of Melbourne. A pre-planning decision was virtually separate flats for parents and children. Privacy demanded an introverted plan, but a view over suburban roofs to distant hills also called for an outlook to the rear. Hence the division of the house into two separate boxes, two-storey in front, single-storey at rear for the children, tied together by a single roof in which a hole is cut over the central court. Both sections look inward to the court as well as to the view at the back, the upper level of the front box gaining its view through the hole in the courtyard roof. The courtyard has glazed side walls, obscured where necessary for privacy.

Each box has cavity brick walls reinforced with 3in. steel tubes in the cavities. A 4ft. module was adopted. The roof is carried on 3/4in. cables 4ft. apart draped from front to back, tied at the ends to the steel frames in the brickwork and propped at intervals by the timber posts of the internal, glazed partitions. The cables are not highly tensed and produce a series of gentle catenaries between supports. Vines will eventually grow along the cables above the courtyard. The two boxes have separate air-conditioning units. The front block is treated as a single room, for the upper-level platform within the box is 4ft. clear of the walls. Other materials: brick floor, plasticized; structural timber preservatized, not dressed or painted. Internal walls are lined with jarrah (dark red eucalypt). Joinery timber is mountain-ash (white eucalypt). Roof: 1in. decking between the cables; 1in. insulation board; built-up felt.



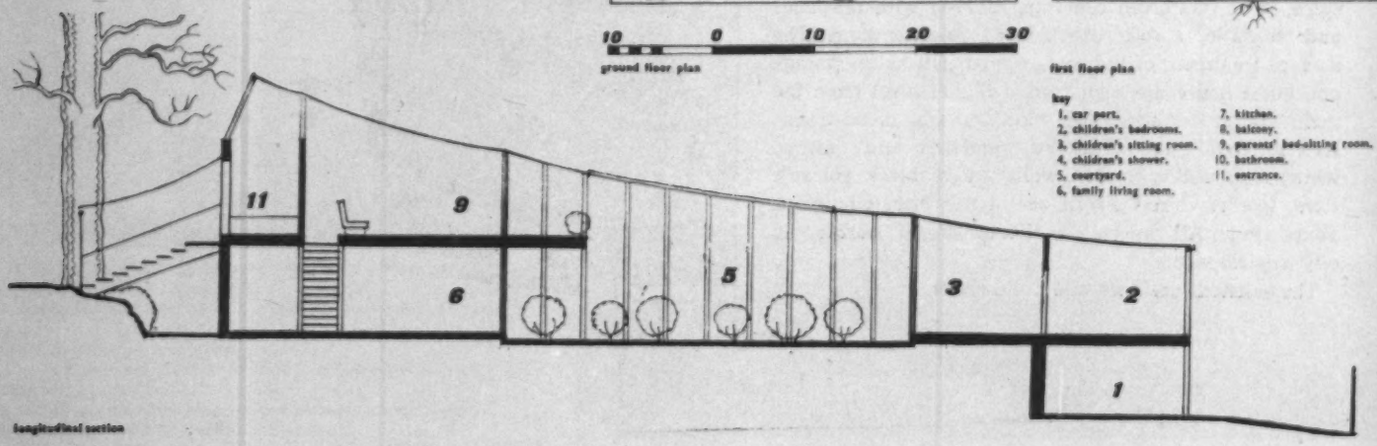
ground floor plan



first floor plan

key

1. car port.
2. children's bedrooms.
3. children's sitting room.
4. children's shower.
5. courtyard.
6. family living room.
7. kitchen.
8. balcony.
9. parents' bed-sitting room.
10. bathroom.
11. entrance.



longitudinal section

1

2

3

1, looking towards the two-storey end of the house (family living-room below; parents' bed-sitting above) from the central garden court. The glazed screen on the right of the court has its upper panels obscured to hide the view of a tall adjoining house.
2, looking in the opposite direction to 1: from the family living-room across the court to the single-storey children's wing.
3, inside the family living-room.

2. AT MELBOURNE, AUSTRALIA

architects: Grounds, Romberg & Boyd

The house is for Mr. Robin Boyd's own occupation. The site was a narrow slice of an old garden, 40ft. by 126ft., with high neighbouring buildings—and the threat of higher—in a residential area of the city of Melbourne. A pre-planning decision was virtually separate flats for parents and children. Privacy demanded an introverted plan, but a view over suburban roofs to distant hills also called for an outlook to the rear. Hence the division of the house into two separate boxes, two-storey in front, single-storey at rear for the children, tied together by a single roof in which a hole is cut over the central court. Both sections look inward to the court as well as to the view at the back, the upper level of the front box gaining its view through the hole in the courtyard roof. The courtyard has glazed side walls, obscured where necessary for privacy.

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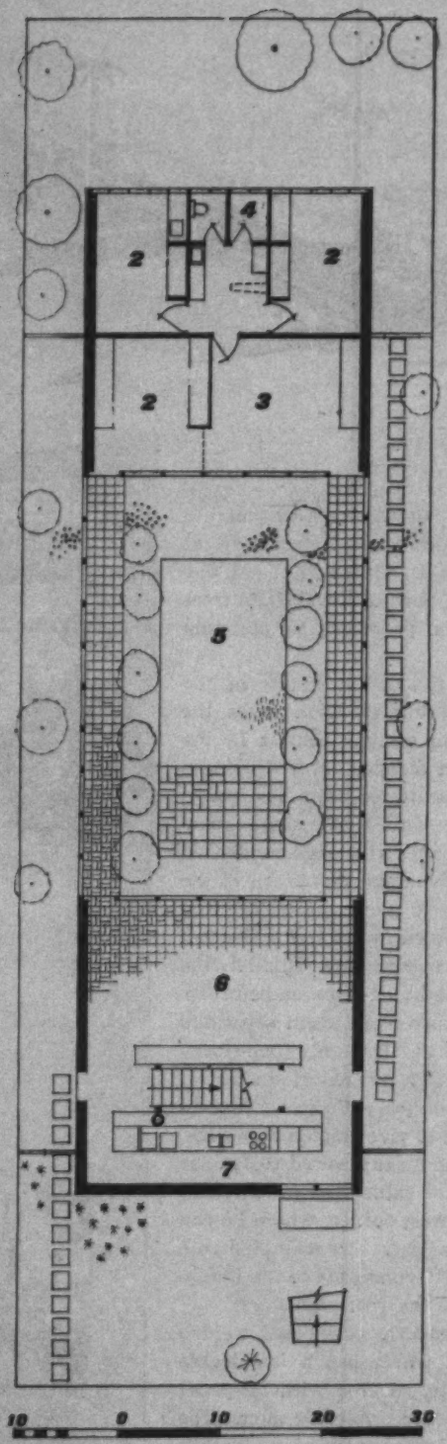
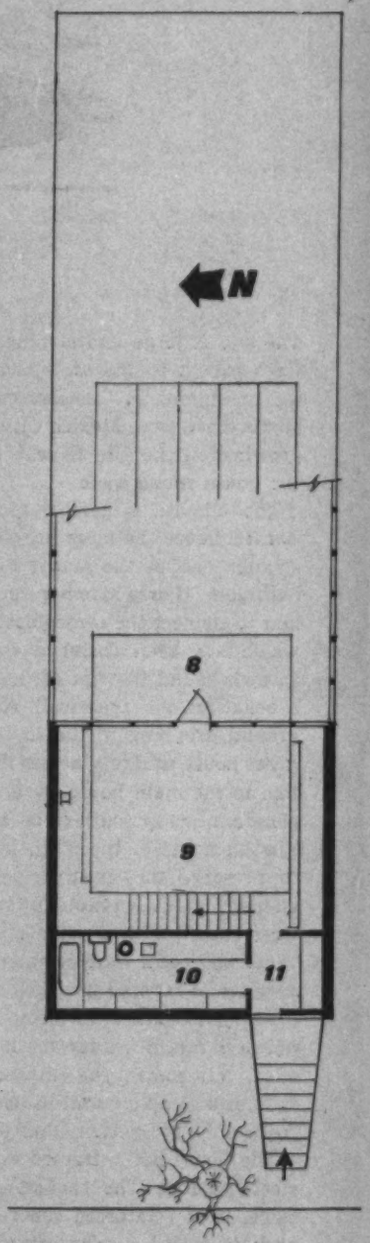


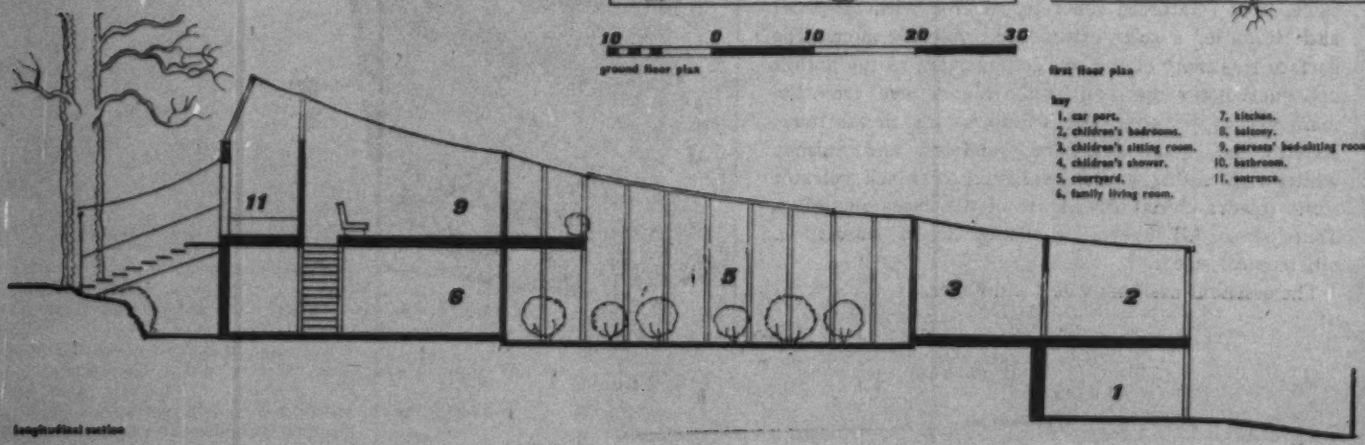
ground floor plan



first floor plan

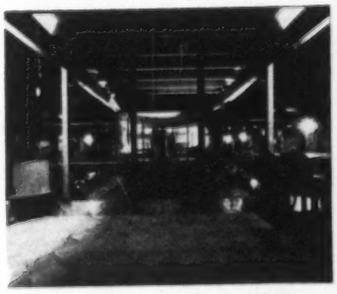
key

1, car port.
2, children's bedrooms.
3, children's sitting room.
4, children's shower.
5, courtyard.
6, family living room.
7, kitchen.
8, balcony.
9, parents' bed-sitting room.
10, bathroom.
11, entrance.



longitudinal section

1



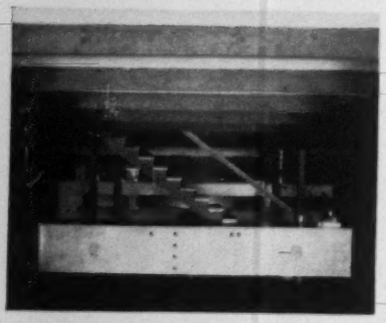
2

3

1, looking towards the two-storey end of the house (family living-room below; parents' bed-sitting above) from the central garden court. The glazed screen on the right of the court has its upper panels obscured to hide the view of a tall adjoining house.
2, looking in the opposite direction to 1: from the family living-room across the court to the single-storey children's wing.
3, inside the family living-room.

HOUSE AT MELBOURNE, AUSTRALIA

4



5

6

7

8

4, the dining end of the family living-room; painting by John Brack.
5, inner wall of family living-room, with staircase beyond the built-in buffet-radiogram fitment and kitchen beyond that.
6, the kitchen. All equipment is in one island fitment which partially screens the kitchen from the staircase and living-room.
7, living-room from beneath the staircase, looking over the top of the fitment shown in 5.
8, close-up of living-room and kitchen fitments, with staircase between.

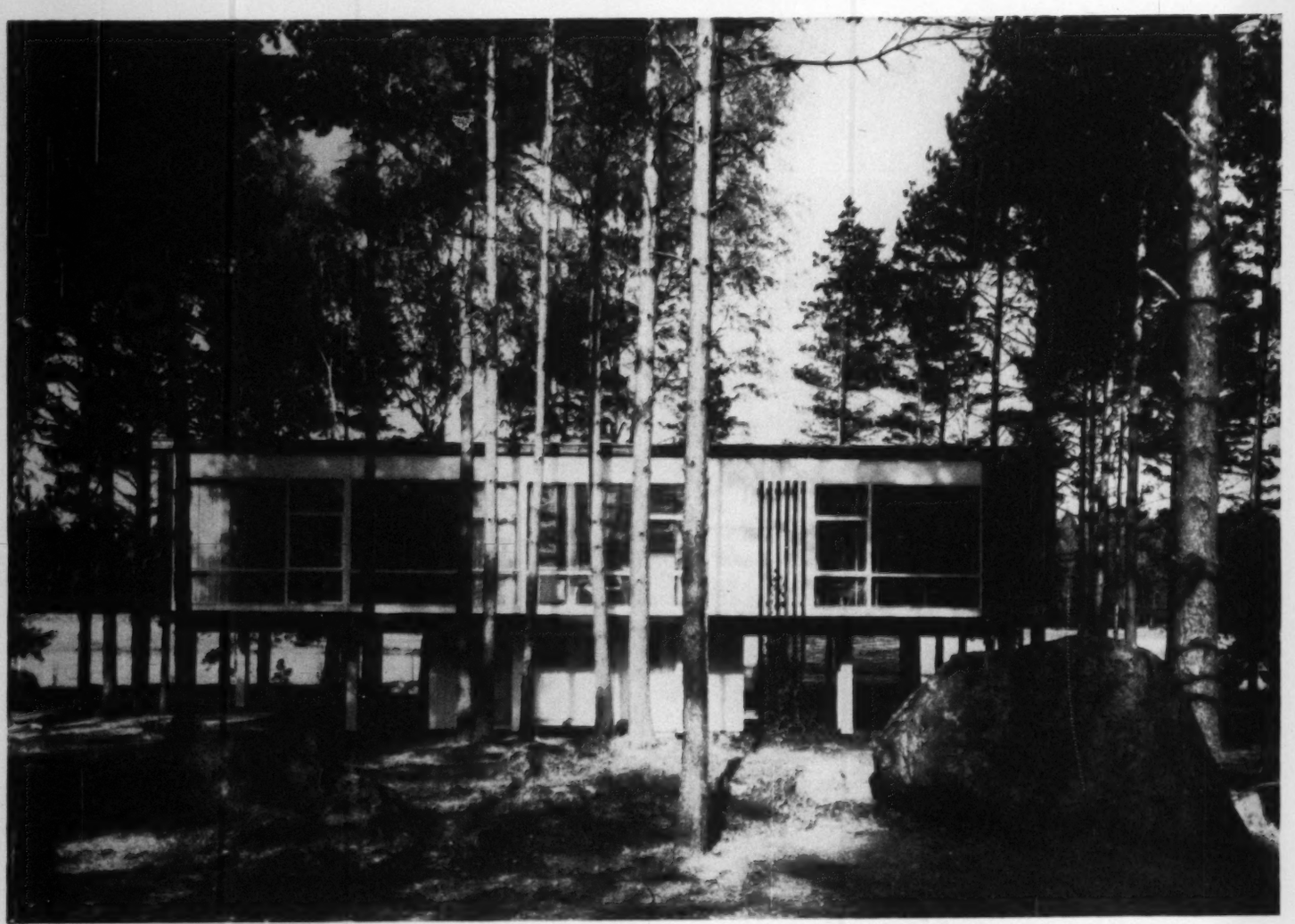
9

9, the parents' bed-sitting room on the first floor above the family living-room, with balcony, right, projecting into the courtyard. A built-in upholstered seat protects the edge of the staircase well, at the foot of which, left, is the front door. The bathroom is behind the timber-faced wall on the left, above the kitchen.
10, the other side of the parents' bed-sitting room, showing the balcony and the timber-lined roof supported on steel cables.

10

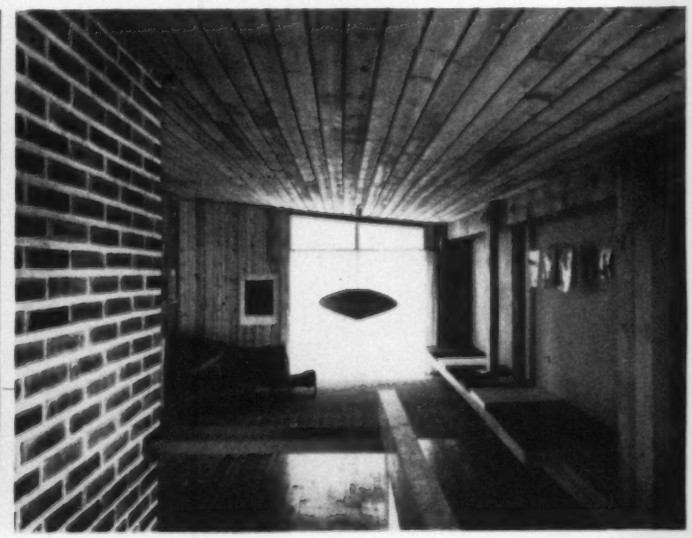
photographs by Mark Strizio

3. NEAR PORVOO, FINLAND architect, Bertel Saarnio

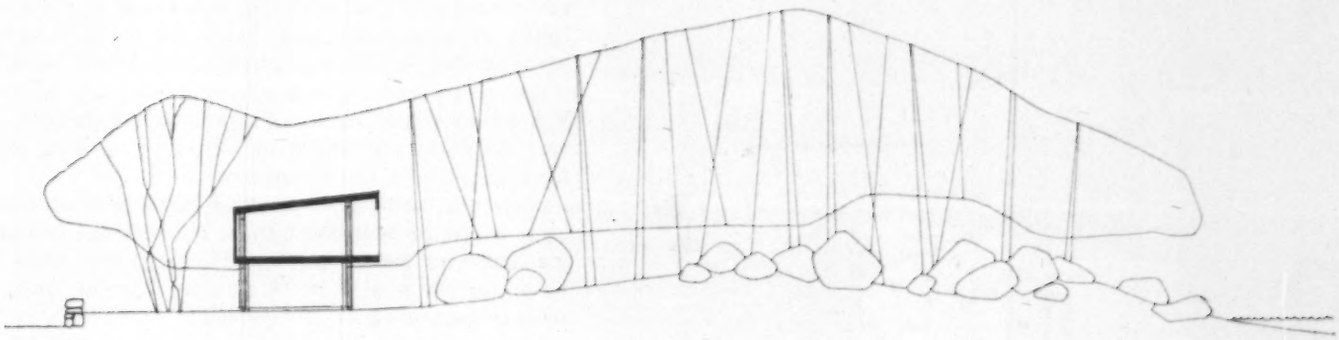


1

2



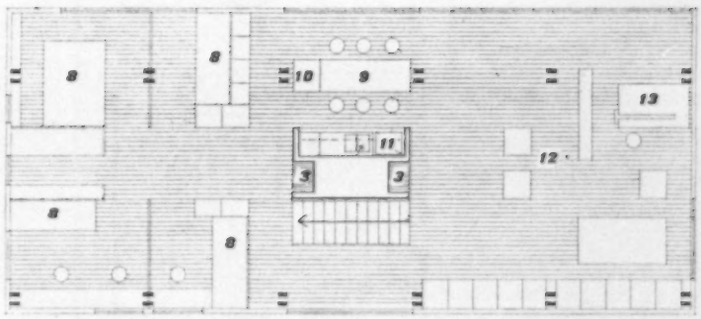
3



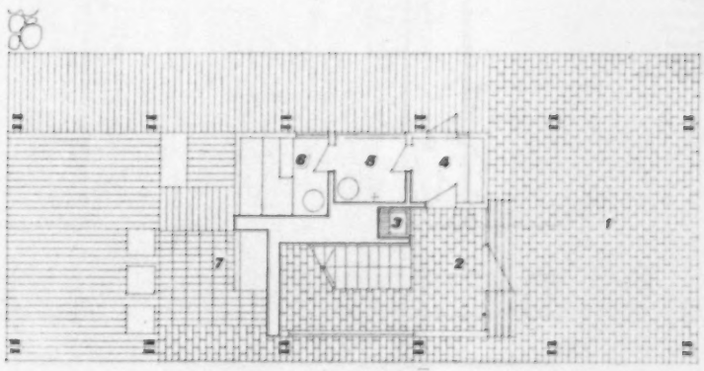
cross section

The site is close to the sea, thickly planted with pine trees and grassed, with outcrops of rock. The house has trees close around it but their foliage is high above roof level. All living-rooms and bedrooms are on the first floor to give them a view of the sea. The ground floor is partly open, providing a covered garden and car-port, and contains also a small entrance and staircase hall and a *sauna* (Finnish steam bath).

The structure is entirely of timber, except for the central core of fireplaces and flues which is of brick. Outside, the vertical timber boarding is creosoted; the windows and their surrounds are painted white. Inside, walls and ceilings are lined with timber, unpainted, with either a planed or a rough sawn surface.



first floor plan



key
1, car port.
2, entrance.
3, fireplaces.
4, dressing area.
5, washing.
6, sauna.
7, open-air fireplace.
8, beds.
9, dining table.
10, refrigerator.
11, cooker and sink unit.
12, living area.
13, work table.

ground floor plan

On the facing page: 1, from the south. The entrance to the house is underneath the living-room on the left.
2, the first-floor interior, which is planned as one continuous space, the bedrooms being separated by partitions which stop short of the ceiling. The photograph shows the living-area screened from the working space for shelving. In the centre is one of the double timber columns on which the house is supported.
3, looking across the stairwell into the living-area, with the central brick chimney on the left.

photographs by Pertti Ingervo

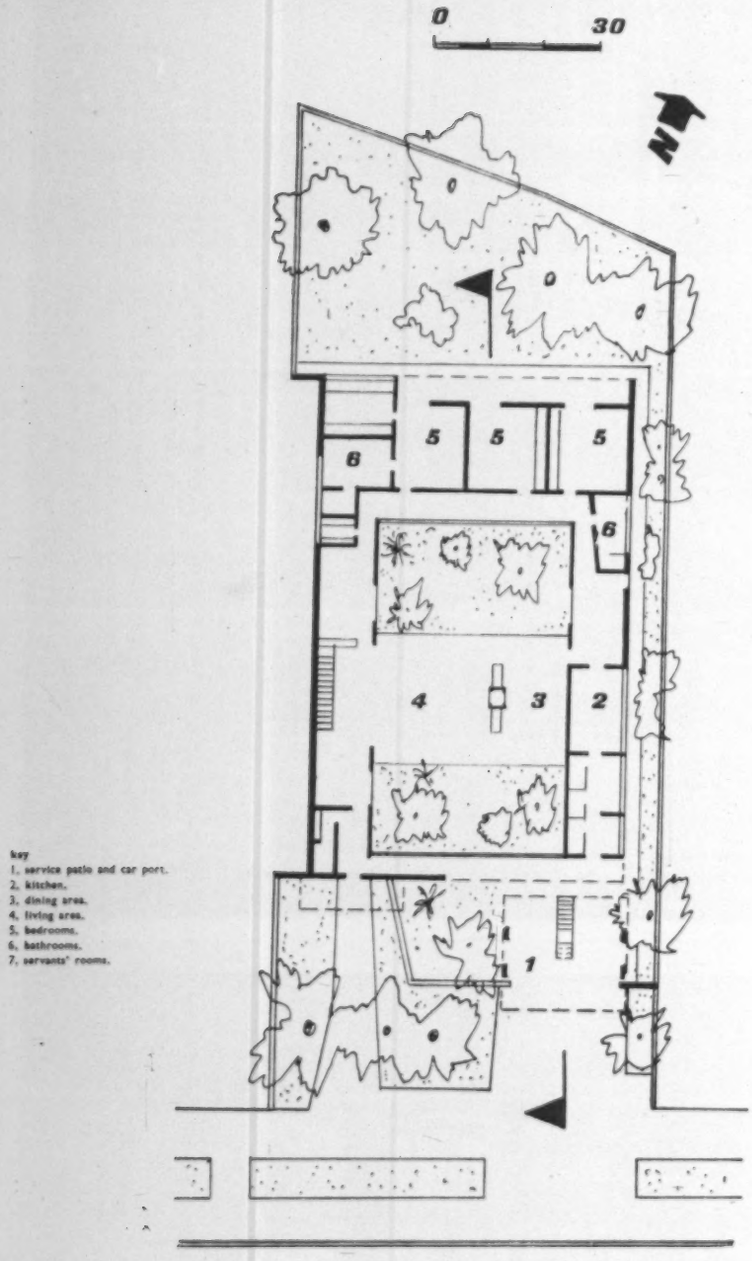
4. AT SAO PAOLO, BRAZIL architect, Rino Levi

The site was relatively small, with a street frontage of about 60ft., in a residential area of the city. It was flat, and therefore offered no distant views, and was overlooked by nearby buildings. The house has therefore been planned so that the rooms face inwards on to patios, which serves as outdoor living areas, It presents high blank walls or perforated screen-walls to the public view and that of the neighbours. The house was designed for a couple with two children.

There are four patios: a service patio in front, one on to which the bedrooms open at the back and two in the centre for the living-rooms. The latter are covered by a concrete pergola at the same level as the living-room ceilings, designed to unite visually the indoor and outdoor areas. The main living-room, which is 18ft. wide, thus becomes part of a living area nearly 60ft. wide. The pergola also serves to control the heat and glare of the sun, and the two shaded patios act as a buffer between exterior and interior, keeping the rooms fresh in the summer and warm in the winter. Bedrooms in Sao Paolo require maximum sun, and they are therefore placed at the back of the site. The servants' rooms are above the car-port and are reached from the service patio.

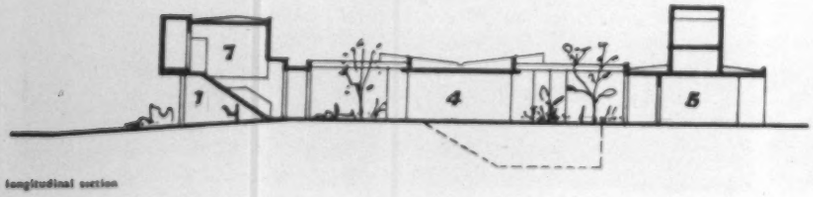
The structure is a reinforced concrete frame with brick walls, and a roof with a five-degree slope covered with corrugated asbestos-cement tiles. Ceilings are hollow tile to give good insulation. Floor-finishes are wood in the bedrooms and white ceramic tile elsewhere. The walls of the living-room patios are faced with pink glass mosaic. The main living-room is divided into dining and sitting spaces by a built-in unit combining fireplace, bar, radio, gramophone and bookcase.

The associate architects were Roberto Cerqueira Cesar and L. R. Carvalho Franco.



key
1, service patio and car port.
2, kitchen.
3, dining area.
4, living area.
5, bedrooms.
6, bathrooms.
7, servants' rooms.

ground floor plan



longitudinal section

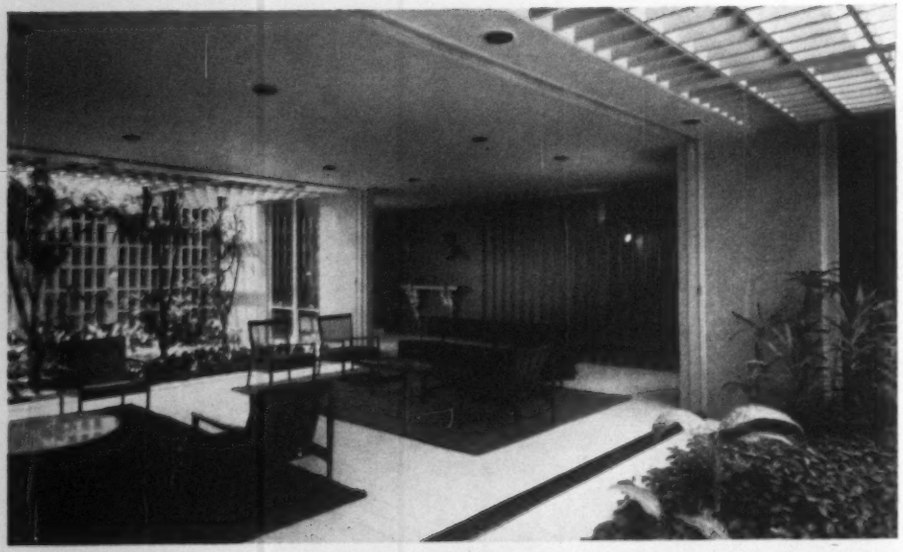
On the facing page: 1, the screened entrance from the street. On the right, above the garage, are two servants' bedrooms.
2, the living and dining area, which has an enclosed patio on either side, seen from the entrance. Glazed screens slide the full length of the room. The living-area is separated from the dining-area (at the far end) by a combined fireplace, bar and radio and gramophone unit.

1

2

photographs by
J. Moscardi

HOUSE AT SAO PAOLO, BRAZIL



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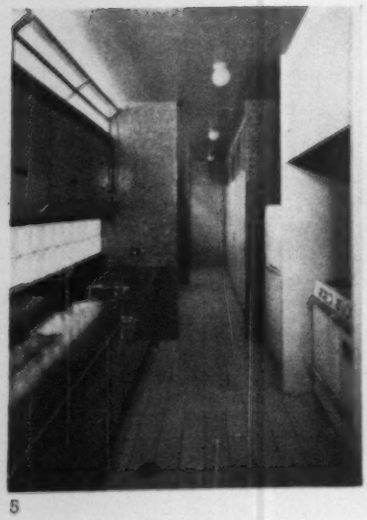

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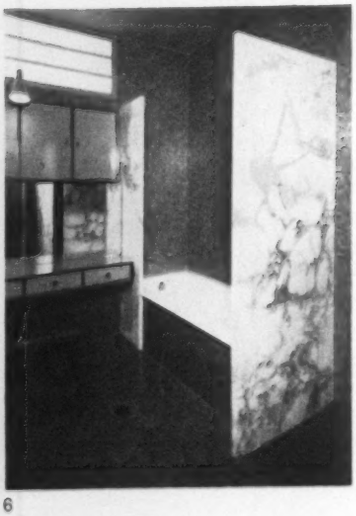
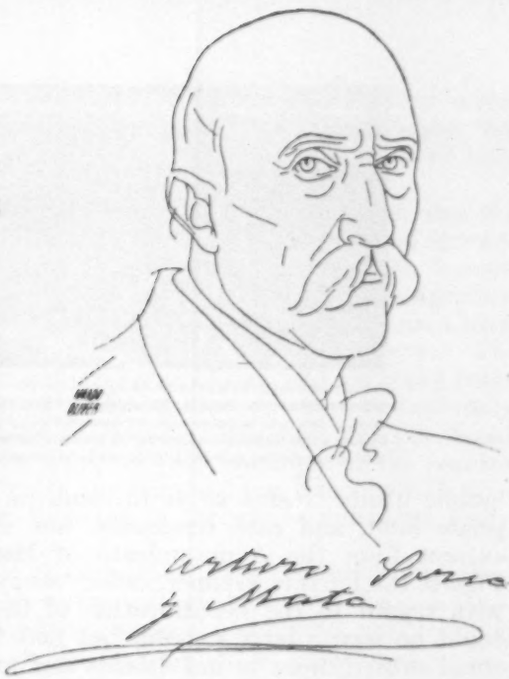


6

3, the living-room, looking in the opposite direction to 2 on the preceding page. The tubular screen in front of the far wall protects the stairs to the cellar. The tubing is black and the wall covered in grey ceramic mosaic.
4, from one of the patios, with an end view of the fireplace - furniture partition. The fireplace has an opening on both sides.
5, the kitchen, with glass-brick lighting to working surfaces and clear clerestory window. Walls are faced with brown glass mosaic.
6, the bathroom, with marble partitions and walls faced with brown glass mosaic.

George R. Collins



The portrait on the right is that of Arturo Soria y Mata (1844-1920), *the founder of modern linear planning. In the following article Professor Collins, of Columbia University, New York, beginning with Soria's pilot project, the Ciudad Lineal at Madrid and his ambitious ideas for solving both urban and agrarian problems by means of linear settlements along transportation routes, describes the various subsequent theories of linear planning that have been put forward in Europe and America. He concludes by drawing attention to the actual, though unplanned, growth of cities in linear form in recent years, which gives a continued relevance to these theoretical studies.*

CITIES ON THE LINE

Linear planning of cities and regions is a well-known but little studied subject. It is generally acknowledged that the ancient custom of building settlements along transportation routes was first given modern rational form by a Spaniard, Don Arturo Soria y Mata, at the end of the last century, 1. But it is not generally realized how prophetic Soria was, how many current planning ideas can be traced to his example, nor indeed what a variety of linear schemes have arisen in the past seventy-five years.*

Soria devised his Ciudad Lineal, as he called it, in the course of writing a column about municipal reform in the radical and short-lived Madrid newspaper *El Progreso*. Amongst nineteenth-century planners he was one of the first to see that the ills of Europe's big cities should be met on a regional level, and that in cheap high-speed surface transportation lay the possibility of a remedy. He wrote on March 6, 1882:

'A single street of 500 metres' width and *of the length that may be necessary*—such will be the city of the future, whose extremities could be Cadiz and St. Petersburg, or Peking and Brussels.

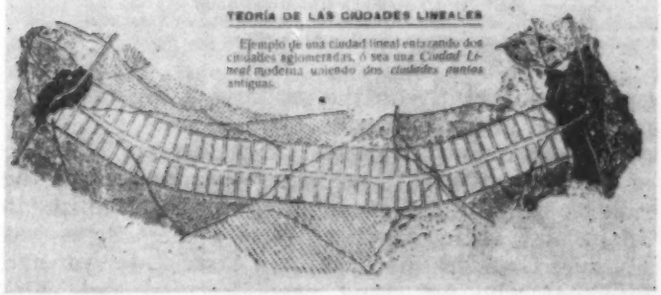
'Put in the centre of this immense belt trains and trams, conduits for water, gas and electricity, reservoirs, gardens and, at intervals, buildings for different municipal services—fire, sanitation, health, police, etc.—and there would be resolved at once almost all the complex problems that are produced by the massive populations of our urban life.

'Our projected city unites the hygienic conditions of country life to the great capital cities and, moreover, assumes that the railways, like to-day's streets and pavements, will carry free or for little all citizens.'

Soria's planning ideas are illustrated in 2, 3 and 4. A man of indomitable will and of staunch Republican principles, he attempted in the 1890's to organize a limited company in order to put his plan into effect in the environs of Madrid. Drawing on his considerable experience in the management of municipal railways, he secured a licence for a ring railway well outside the city, 5, along which he designed a utopian linear community of 55 kilometres' length that anticipated many of Ebenezer Howard's famous reforms. 'For every family its own house; for each house an orchard and garden,' was the slogan of Soria and his associates.

Soria's Compañía Madrileña de Urbanización met with only limited success. It was never able to obtain

* Since this article was written, the first publications in many years devoted to the Ciudad Lineal have appeared in three different countries:
G. R. Collins, 'The Ciudad Lineal of Madrid,' *Journal of the Society of Architectural Historians* (USA), XVIII, No. 2 (May 1959), pp. 38-53;
Ivan Bolleau, 'La Ciudad Lineal: a critical study of the Linear suburb of Madrid,' *Town Planning Review* (Liverpool), XXX, No. 3 (Oct. 1959), pp. 230-238;
Various participants, 'Sesión sobre la Ciudad Lineal,' *Arquitectura* (Madrid), I, No. 11 (Nov. 1959), pp. 2-17.



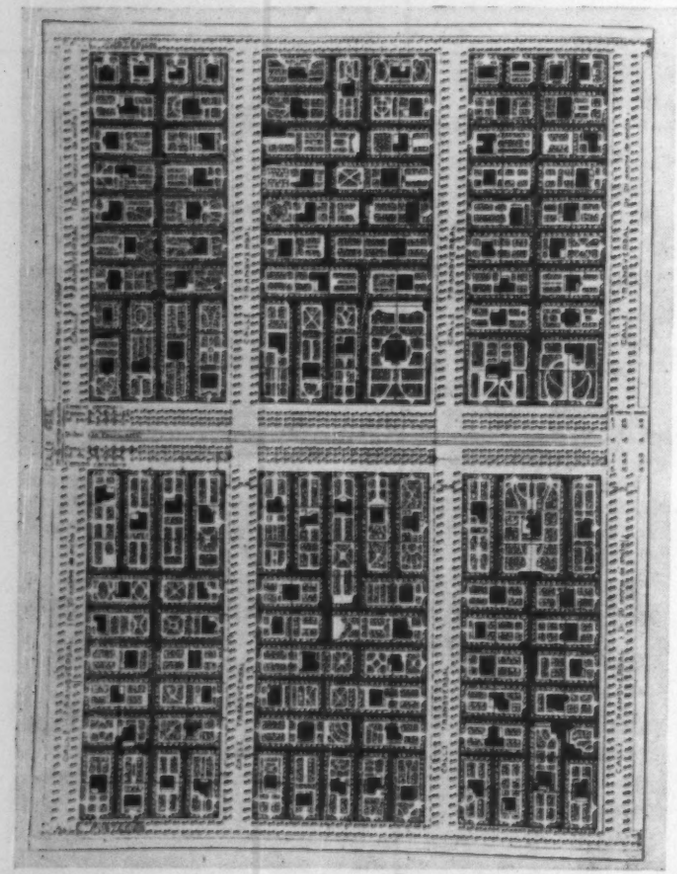
2, the regional layout of a Ciudad Lineal connecting two old 'point-cities' as Soria called them. He envisaged continents criss-crossed by vast webs of such 500-metre-wide settlements. Compare fig. 14.

3, bird's-eye view of Soria's Ciudad Lineal stretching into the distance, laid out in this case with a buffer zone of vegetation along both sides (a later garden-city intrusion). A boulevard 40 metres wide, tree-lined and with double car tracks, forms the axis of this continuous community. At 300-metre intervals were to be 20-metre cross-streets forming superblocks of 40,000 to 60,000 square metres.

'public utility' status so as to condemn and expropriate land, and each concession was an ordeal to extract from the Ayuntamiento of Madrid, which *Figaro*, the Paris newspaper, called 'always refractory with regard to the beautification of the city.' Nor could he secure large capital, but had to settle for small subscriptions in instalments and at murderous rates of interest. Only 22 km. of the intended 55 km. circuit was ever planned, and only a quarter of that actually built up. Thus he was, in practice, restricted to a tiny residential suburb that demonstrated much of his idealistic community spirit, but hardly his great industrial and regional ideas.

In the face of many obstacles the Company slowly improved its financial position, and it was in the midst of an ambitious expansion of its public works when a crisis brought on by World War I caused it to suspend dividend payments. Soria died in 1920, probably from overstrain, and his sons, who inherited the enterprise, made a superficial recovery in the boom days of the 1920's. However, labour troubles during the young Republic, coupled with outright destruction in the Civil War, withered the enterprise. About 1940 the Company fell into the hands of speculators who proceeded to dismember it. To-day the Ciudad Lineal with its archaic trolleys seems shabby and abandoned in comparison with its hopeful bustle in former times, but it is still, as always, a pleasant retreat for *Madrileños* on a hot Sunday in the summer, 7.

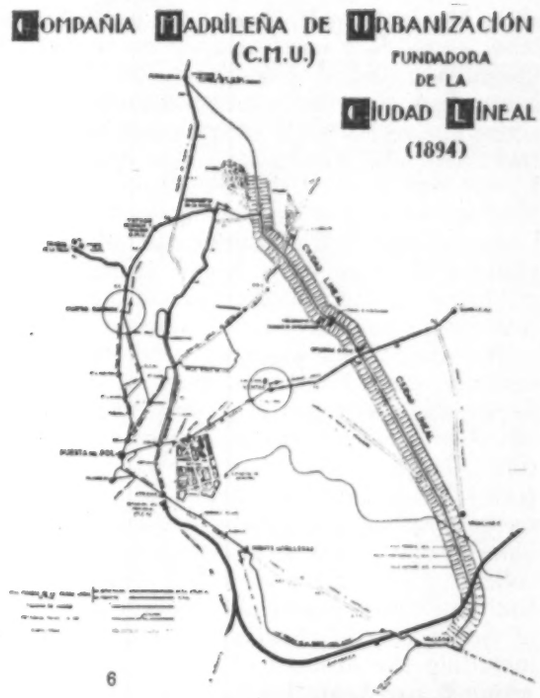
Arturo Soria y Mata was both an active and an intellectual type. His accomplishments included a youthful political career which involved him in the abolition of slavery in Puerto Rico, as well as many years of journalistic activity and a devotion to philosophical studies that led to his founding a Neo-Pythagorean school in Madrid. As a planner he quoted extensively from Spencer and Darwin and was well acquainted with the publications of Reclus, Geddes and Ebenezer Howard. His Ciudad Lineal theory he boiled down to ten basic principles, beginning with '1, From the problem of locomotion derive all the other town planning problems,' and concluding with '10, The linear city will accomplish an equitable distribution of land. It is a complement to the doctrine of Henry George.' His periodical, *La Ciudad Lineal*, quoted heavily from the American economist and reported constantly on the progress of the single-tax movement in the Peninsula.



4, a site plan showing the block layouts in an ideal Ciudad Lineal. The larger, more expensive, homes were to face on the grand central boulevard, smaller homes on the transverse streets and the most modest on the rear parallel streets. Soria prided himself, however, on the proximity of the rich and poor in his utopian garden city. At intervals along the central avenue were to be kiosks, police posts, refreshment stands and the like for the service of the residents. At intervals spaces were set aside for industrial purposes.

5, the original plan of Soria's concession (1892) for a railway and Ciudad Lineal of 55 kms. length surrounding Madrid. Linear communities can be seen laid out along most of its length. The connection with Madrid was to be from a position midway between Canillas and Vicalvaro where a line, with a short Ciudad Lineal on it at one point, was to reach in to the city. It was to enter Madrid underground as Spain's first subway. The underground terminus near the Prado, although replanned several times to meet their specifications, was never allowed by the city fathers.

Soria assumes, then, a place in the venerable lineage of Utopians. Nor is it surprising that he became the rallying point for a group of idealistic urbanists in Spain and Latin America. First among these was Hilarión González del Castillo, a Spanish lawyer and diplomat who for many years lectured and pamphleteered throughout the world on the theory of the



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7

6, a map of the Ciudad Lineal as finally laid out. Only an upper quarter, represented by a solid track in the centre, was actually constructed. The circled arrows indicate the starting points of the Company's own trolley-lines which made a circuit through the Puerta del Sol in old Madrid. The circuit was completed in 1904, electrified in 1909 and functions to this day between the arrows.

7, the main avenue, calle Arturo Soria, *in the heyday of the Ciudad Lineal. Tree planting was one of the major activities of its residents, and in the early days Arbor Day, which Soria helped launch in Spain, was the occasion of important annual festivals and games. Visiting urbanists have always commented on the green and sanitary oasis that the Ciudad Lineal has seemed to be in comparison to the rest of the parched Castillian capital. Soria's first great triumph was his bringing the waters of Lozoya to his community in* 1897.

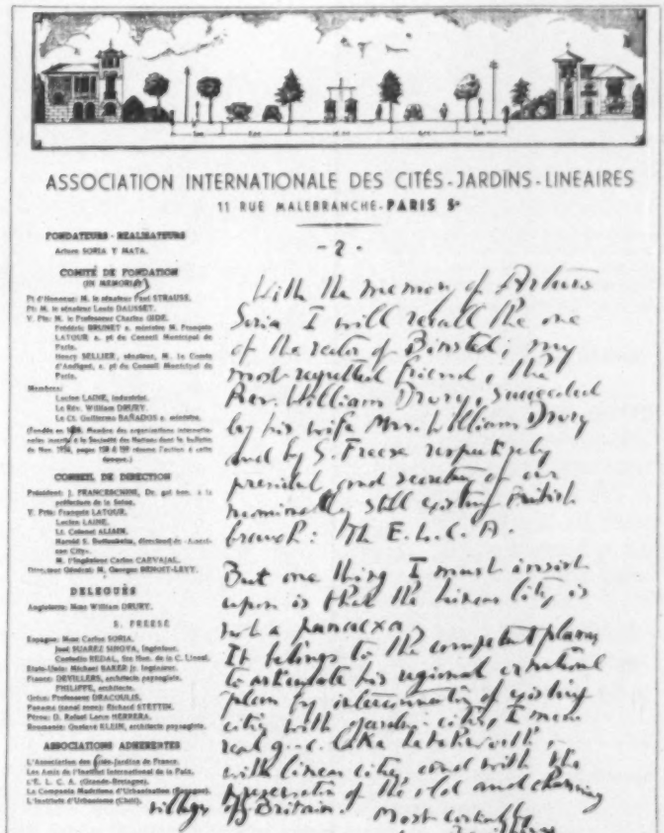
Linear City. He did much to refine the theory, introducing modern zoning principles and attempting to consolidate its community life by interspersing large plazas and by restricting the length of each settlement. He incorporated these and some Garden City ideas into his Belgian Linear City of 1919. González del Castillo carried on a long polemic with the protagonists of the English Garden City, and he insisted that the Ciudad Lineal was actually a garden city, earlier and superior to the English type. He wrote often on the virtues of linear cities as modern colonizing devices, e.g. in Spanish Africa, and also attracted considerable interest by his suggestion that London's problems be cured by surrounding it with a network of linear and garden cities.

Soria's first international connection was established when in 1907 the Chilean engineer and urbanist Carlos Carvajal Miranda discovered his publications. Carvajal became convinced that linear planning was the solution to his country's need for better transportation and systematic agricultural colonization. He spent a lifetime on his campaign for linear planning, which was almost accepted as governmental policy on at least two occasions—in 1924 and 1939.

But the most vigorous associate of Soria was the French promoter of garden cities, Georges Benoit-Lévy. From the early 1920's until to-day M. Benoit-Lévy has championed linear planning at congresses, through his International Association of Linear Cities, in professional publications and in the press. His viewpoint is a supra-national one, and for many years the meetings of his Association were reported officially by the League of Nations. His most explicit linear plan, that for Paris in 1927, anticipated the parallel bands of industry, greenery and residence, 8, which were used by the Russians in their later industrial linear cities.

Meanwhile abroad other plans that could be called linear were elaborated; all of them seem characteristic of their day in their emphasis on utopian, pat economic theory and on the exploitation of high-speed surface transportation. Such schemes became most plentiful in the 1930's and 1940's, seeming to culminate in Le Corbusier's linear regional planning.

England and the United States led off. The earliest linear planner independent of Soria seems to have been Captain J. W. Petavel, an English engineer, who felt, as Soria had, that decentralization by means of cheap and rapid commuter trains could relieve urban congestion. In 1909 he first published his plan, which called for four populated ribs radiating out along transport lines from a central city. This prefigured


ASSOCIATION INTERNATIONALE DES CITÉS-JARDINS-LINEAIRES

11 RUE MALEBRANCHE-PARIS 5e

-2-

With the memory of Arturo Soria I will recall the one of the realer of Bristol, my most regretted friend, the Rev. William Drury, succeeded by his wife Mrs. William Drury and by S. Freer respectively president and secretary of our nominally still existing British branch: The E.L.C.A.

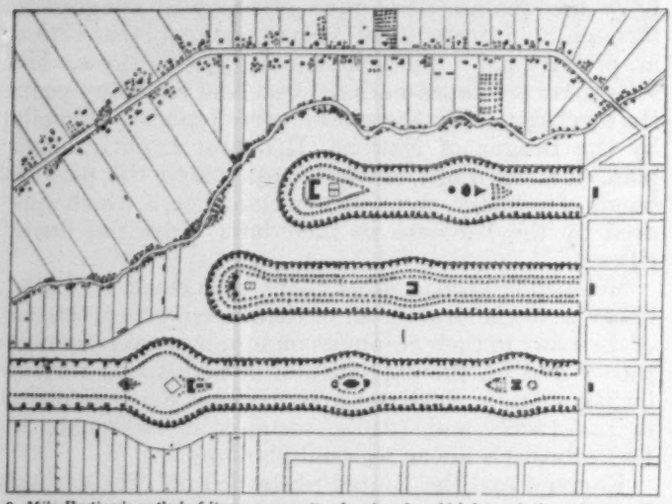
But one thing I must insist upon is that the Linear City is not a panacea. It belongs to the complete plans to articulate the regional urbanism plan by alternating of existing cities with garden cities. I made real give the Letchworth, with linear city, agreed with the suggestion of the old and charming W. Britain.

Most cordially yours Benoit-Lévy

8, a page from a message in his own handwriting sent to the REVIEW *last year by M. Benoit-Lévy. Note the letter-heading depicting a cross-section through a linear route.*

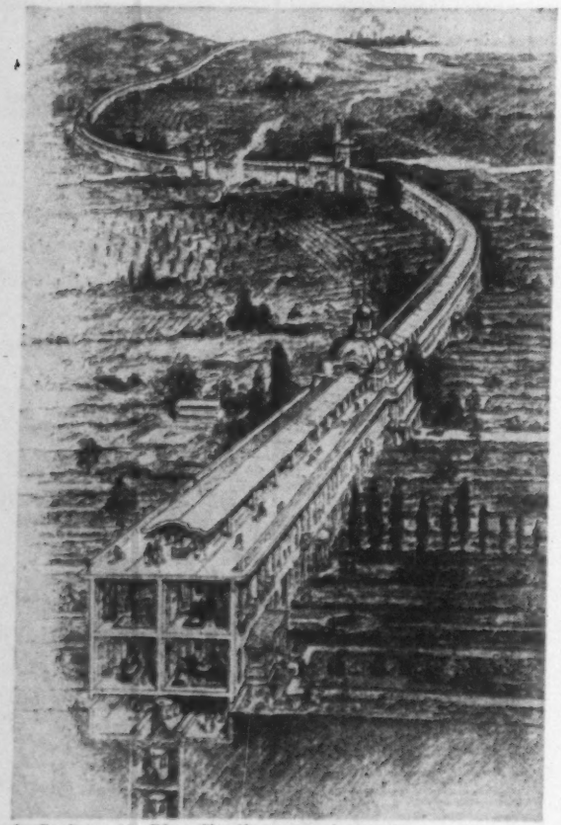
somewhat the more comprehensive ribbed plan prepared by the English MARS group in 1938. Petavel was in touch with Soria from about 1913 when his plan was discussed in the magazine *La Ciudad Lineal.*

Early American plans that could be called linear were more technologically romantic than any of those we have seen so far. The American writer Milo



9, Milo Hastings's method of linear community planning, for which he received a prize from the American Institute of Architects (1919). *Houses are attached at the rear to their street, but face on to inner parks which contain the public buildings. The service streets were to provide all manner of modern conveniences, including piped vacuum for cleaning. By courtesy of the* Journal of the American Institute of Architects.

Hastings worked out from 1909-19 an arrangement of linear loops of housing, 9, which enclosed parks and was serviced by mechanical utilities piped and tracked

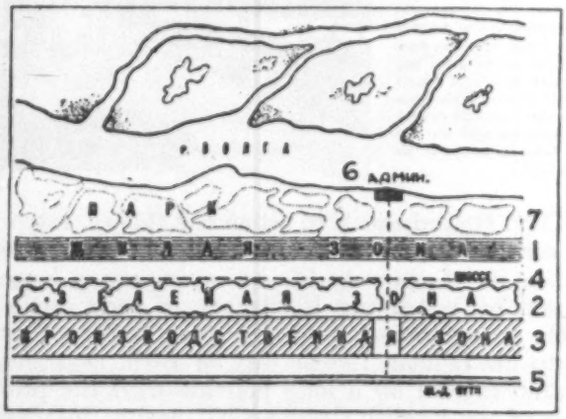


In Roadtown, 10, Edgar Chambless proposed a continuous concrete house (Edison patent) with promenade on the roof, high velocity trains in the basement. He felt that such compact housing would avoid what we now call "urban sprawl" and permit the efficient cultivation of the small farm holdings through which it threaded its way.

along the loop itself. One of the most fantastic linear schemes to date was dreamed up in 1910 by Edgar Chambless. Called Roadtown, 10, it was to be a continuous concrete house, indefinitely long, snaking across the countryside with its own rapid trains in the basement. An analogous linear plan called Metro-Linear was worked out by Reginald Malcolmson of Illinois Institute of Technology in the 1950's.* Arthur Comey of Harvard was the most influential American planner to engage in linear schemes. In 1923 he published a highly rationalized regional plan as a counter-proposal to English Garden City theories.†

The only linear planning other than Soria's to be actually carried out was that in the Soviet Union during the early part of its first five-year plan (1928-33). For a time linear planning of the most radical sort became an instrument of Soviet decentralization policy in a drive to break down the distinction between urban and rural proletariat. Linear strips of indefinite length were to be combined with a type of collective housing and living aimed at eliminating the family as a social and economic unit. This point of view was soon abandoned for a number of reasons, including the absence of that very industrial might which it had been designed to service, but a type of linear planning was continued for single cities.

An example is the well-known plan for a factory town at Stalingrad by Professor N. A. Miliutin, 11. Miliutin's theory, which seems to derive somewhat from Tony Garnier's *cité industrielle,* and aimed at limited settlements of 100,000 to 200,000. He called for a separation of parallel bands of residence, industry and transportation by greenery in a fashion that has led to much later imitation. It would seem to be Miliutin's plan, which was much published, that has led to the popularity of linear layouts among modern industrial planners, Soria's Ciudad Lineal having been



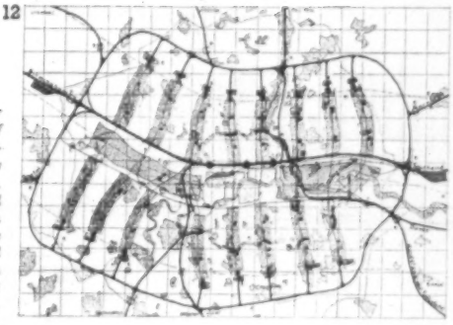
11, Miliutin's schematic plan for Tractorstoi at Stalingrad. Ranged along a park (7) *on the Volga bank, it consisted of a Palace of the Soviets at* (6) *and the following segregated activities, arranged in bands:* (1) *residential,* (2) *green belt including arterial highway* (4), (3) *factory zone alongside its railway* (5). *Agricultural land was to bound the unit on both sides, its workers attending the same technical schools in the city as the industrial workers. From Thomas Adams's* Design of Residential Areas (*Harvard University Press,* 1934).

mistakenly considered as a residential or suburban device, which was all that history had allowed it to become in Madrid. Other than Le Corbusier's *cité linéaire industrielle,* the scheme that would seem to be

* First published in *Dimension* (Univ. of Mich.) II, No. 1 (1956), pp. 16 ff., and in *Architectural Design* (London) for Oct. 1956, p. 317, it has received considerable attention in a number of countries. A model of it is currently featured in the exhibition of "Visionary Architecture" at the Museum of Modern Art in New York City (Sept.-Dec. 1960).

† *Landscape Architecture,* XIII, No. 2 (Jan. 1923), pp. 81-96.

12



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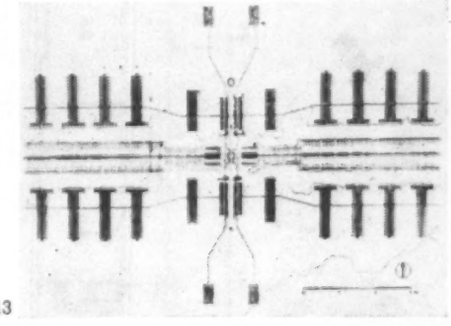


12, *the MARS Group plan for the London region, a model of urbanistic and statistical research for its day, developed by a team of modern specialists. The purpose: to redistribute all but the ancient core of London so that open country would be within walking distance of all residents, and transportation would have unencumbered access to the heart of the nation. The result proved to be a linear axis of main arteries with verdured residential strips (one mile wide) branching off like ribs, the whole organism serviced by a circumvallating artery of local traffic. Apparently the first urbanist to unite systematically the technological advantages of linear planning with the homely virtues of modern 'neighbourhood' planning was Otto Ernst Schweizer, the German architect-planner, in about 1931. His 'comb-satellite' plan,* 13, *was further developed theoretically by Schweizer after he was forced to abandon his active practice in* 1933.

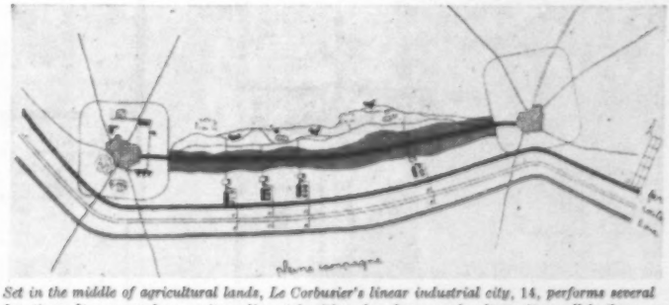
closest to the Soviet's was that suggested by a Belgian at the London Congress of 1935.*

Moving back to England, there was organized in 1933 the ELCA or English Linear Cities Association. The prime movers were the Rev. William Drury, a writer on economics who believed that towns should be organized on assembly-line principles, and Stanley Freese, an artist. The group was loosely associated with Madrid and with Benoit-Lévy and knew of Petavel's ideas and the Russian experiments. Freese had written a futurist novel in 1932 called *The Ten-Year Plan, a dream of 1940* in which he proposed that complex assemblages of transport slash through England's cities and countryside in deep cuttings.

England's most renowned contribution was, however, the MARS (Modern Architectural Research) group plan for London of 1938, worked out by a committee headed by Arthur Korn, himself a linear planner. Both its form, 12, and its details are well-known from Thomas Sharp's *Town Planning* (Penguin Books, 1940), which printed the plan on the cover and attacked it strongly inside. Owing to the interruption of the War, the plan did not receive complete publication until 1942 when THE ARCHITECTURAL REVIEW presented it as a 'Master Plan for London.'† However, it was eclipsed by the County of London and the Greater London plans of the following years. The architects of the MARS plan have acknowledged their debt to many sources, from Geddes to Le Corbusier, but undoubtedly the thinking was dominated by Korn who had, in 1928–29, independently of Miliutin, worked out a collective plan for Berlin not unlike the Russian's scheme for Stalingrad.

The herringbone or branched linear layout represented by the MARS plan became a popular device in the 1930's and 1940's as a number of town planners sought to convert the strung-out linear or even rampant ribbon developments into neighbourhood units of small coherent communities. In these cases the residential settlements would not run parallel to the main artery, but would be on secondary roads, often in cul-de-sac fashion, each element separated from the next one by open countryside. Examples are Schweizer, 13, Hilbersheimer‡, Sert§, and Reichow‖.

There remain to mention only two giants of our time, Frank Lloyd Wright and Le Corbusier, both of whom have toyed with regional planning on occasion, and both in linear fashion. Though Wright's Broadacre City, of the 1930's, is vague and schematic in many respects, it is based on his conviction that every man should drive his own vehicle as a complement to working his own plot of ground, and that our life should be spread out alongside great belt arteries. Le Corbusier's regionalism of the 'four routes' and 'three establishments' is known to all, thanks to campaigning by ASCORAL since he formulated the scheme in 1942. His *cité linéaire industrielle*, 14, is clearly the Soviet linear city serving as connector between old 'concentric cities' as Soria would have advised. However, ASCORAL's map of Europe criss-crossed by linear cities neglects, ironically, to include a Spanish terminus! Actually Le Corbusier may have been inspired by individuals closer at hand than Soria—such as Benoit-Lévy—or by such French handbooks of town planning as Jean Raymond's, which since the early 1930's had illustrated 'rail cities' designed for a variety of uses, including trans-Saharan development.



Set in the middle of agricultural lands, Le Corbusier's linear industrial city, 14, *performs several functions. It may, as here, unite radiocentric cities of exchange and culture; it parallels three of the four routes—rail, truck and canal—and possesses a super-highway in its green belt. Attached like dry cells to the routes are the industrial units that make up this* Usine Verte. *Across the green belt are residences (vertical and horizontal garden cities) and civic buildings, connected largely by footpaths.*

Although the linear planning of cities has never won popular support among professional planners, it has, paradoxically enough, been the natural pattern of growth of our great urban regions. In the USA a pernicious type of uncontrolled 'linear' or ribbon growth has occurred, extending in some cases for as much as 600 miles. And as a recent study¶ predicts 'The highway program of the next decade and a half will certainly promote this type of growth by stretching urban development along the routes of expressways.' Thus linear growth receives acceptance as a fact, but not as a theory.**

* Renaat Soeteway: 'L'aménagement positif en Belgique,' in International Federation for Housing and Town Planning, *14th International Housing and Town Planning Congress: London, 1935*. Part I, Papers and General Reports, pp. 74-79.

† When in April 1943 the REVIEW dealt with the MARS plan a second time, attempting to 'humanize' it, there occurred a discussion of the virtues of concentric and linear plans that reminds one of the antidotes recently advocated by the Editors of the REVIEW for America's 'Exploding Metropolis' (October 1958, p. 217).

‡ Ludwig Hilbersheimer: *The New City*, Chicago, 1944.

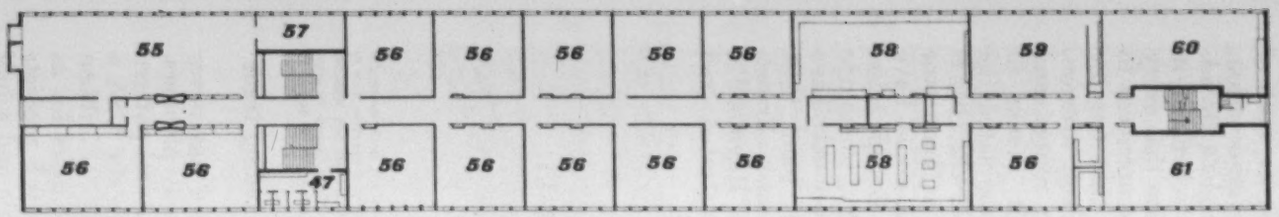
§ José Luis Sert: 'The Human Scale in City Planning,' in Paul Zucker: *New Architecture and City Planning*, New York, 1944, pp. 392-412.

‖ Hans B. Reichow: *Organische Stadtbaukunst*, Braunschweig, 1948.

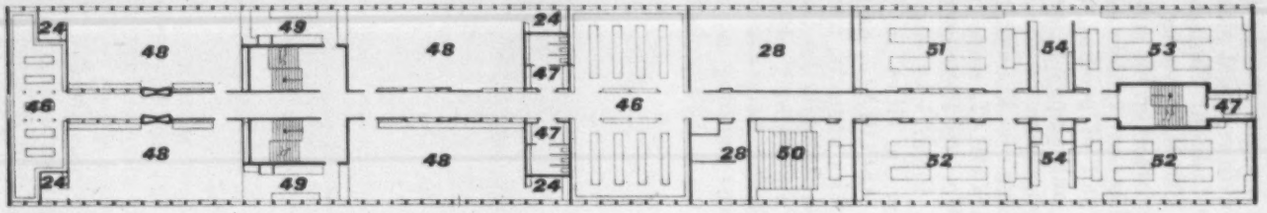
¶ W. Owen: *Cities in the Motor Age*, NYC 1959, p. 122.

** An exception to this statement would be the new linear replanning of Oxford as suggested by Tom Hancock and associates in *Oxford: Proposals for the future City*, London (Townmaker Limited) 1960, and in articles in *Architectural Design*, XXX, No. 6 (June 1960), pp. 224-25, and *The Architects' Journal*, CXXXII, No. 3407 (Aug. 4, 1960), pp. 170-77.

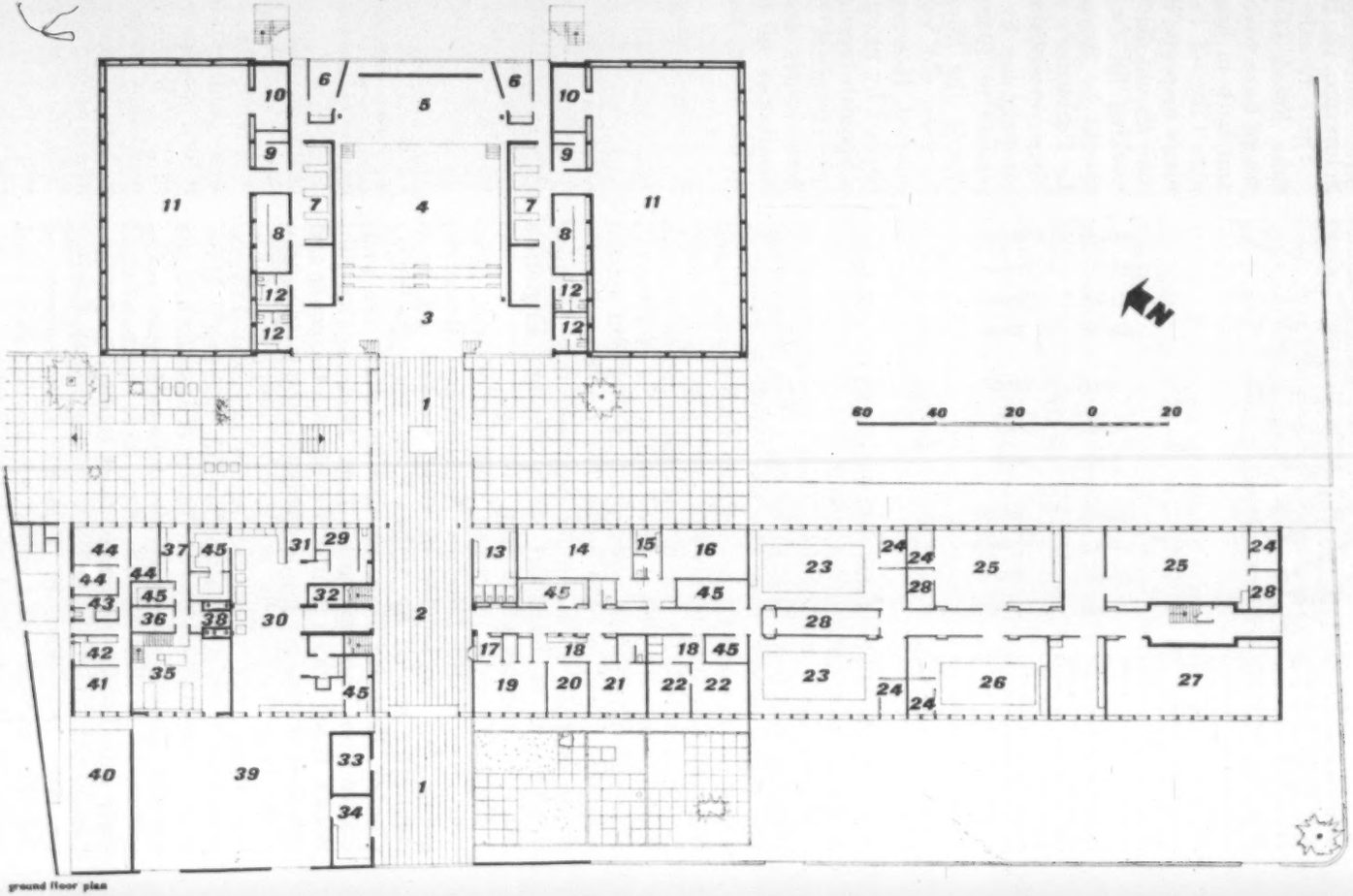
SCHOOL IN ST. MARYLEBONE, LONDON



second floor plan



first floor plan



ground floor plan

key

1. covered way.
2. entrance hall.
3. foyer.
4. assembly hall.
5. stage.
6. music rooms.
7. changing rooms.
8. showers.
9. instructors.
10. apparatus.
11. gymnasia.
12. cloakrooms.
13. pupils' cloakroom
14. common room.
15. staff cloakroom.
16. marking room.
17. school keeper.
18. waiting rooms.
19. school office.
20. deputy headmaster.
21. headmaster.
22. medical rooms.
23. metalwork.
24. masters' rooms.
25. woodwork.
26. fitting shop.
27. engineering.
28. evening institute stores.
29. kitchen staff dining room.
30. kitchen.
31. office.
32. cleaners.
33. electrical intake room.
34. transformer chamber.
35. boiler room.
36. gas meters.
37. workshop.
38. pumps.
39. yard.
40. caretaker's yard.
41. ,, living room.
42. ,, kitchen.
43. ,, bathroom.
44. ,, bedrooms.
45. stores.
46. cloakrooms.
47. pupils' lavatories.
48. house rooms.
49. servery.
50. lecture room.
51. engineering science laboratory.
52. general science laboratories.
53. biology laboratory.
54. preparation.
55. library.
56. classrooms.
57. study room.
58. art rooms.
59. history.
60. drawing office.
61. geography

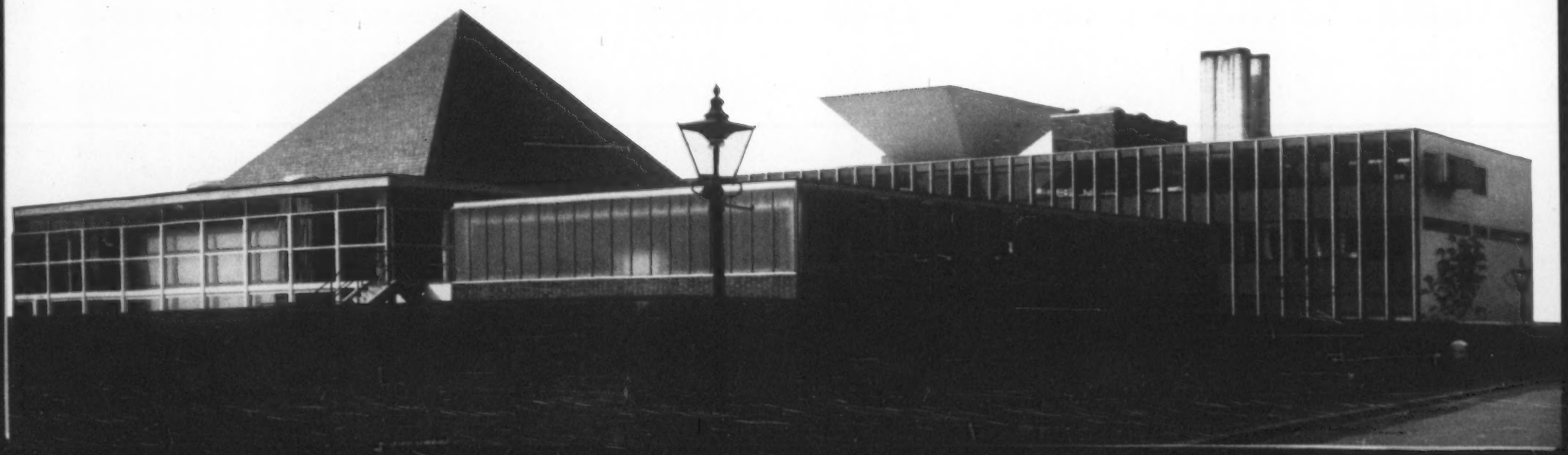
With a few exceptions, British schools since the War have worn a vernacular air and made a virtue of ineloquence—an effect that has probably had a number of causes, among them a desire on the part of architects working for economy-dedicated public bodies to make their work manifestly appear economical, as well as actually being inexpensive. The triumph of this attitude was the British school exhibited at Milan (see page 358). But every architect is not under the same psychological pressure, and the vernacular has been prevented from hardening into a set style, partly by changed Ministry recommendations, partly by the experiments of private architects. A new and important private contribution to the enrichment of educational architecture is the Rutherford School by Leonard Manasseh and Partners, shown on these eight pages.

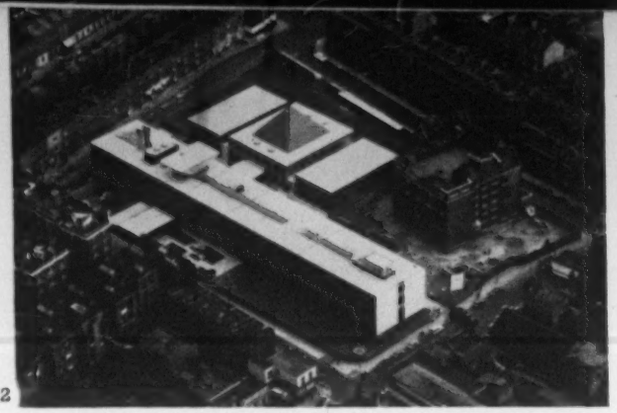
SCHOOL IN ST. MARYLEBONE, LONDON

ARCHITECTS | **LEONARD MANASSEH AND PARTNERS**

associate, Bryan P. Field; assistant architect, Nicholas Quennell

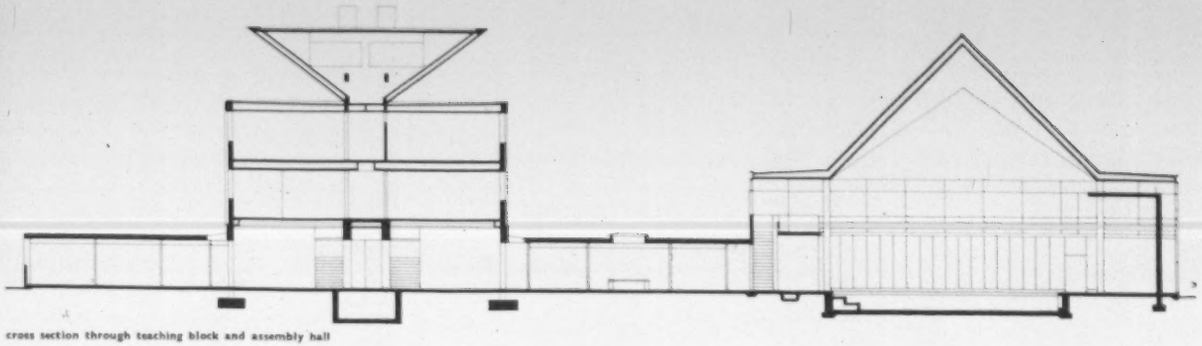
1, the school from beyond the rear boundary wall, looking south, showing the pyramidal roof to the assembly-hall and the inverted pyramid (containing water-tanks) on the roof of the teaching block —see section on page 348.





2

2. air view. The long teaching block is linked on the axis of its entrance hall to the rear block containing a central assembly hall flanked by gymnasia. This view shows how the layout of the buildings was dictated by the presence of an old school on the corner of the site. This is now being demolished to make way for a playground.



cross section through teaching block and assembly hall

SCHOOL IN ST. MARYLEBONE, LONDON

This new secondary school for 780 boys, designed for the London County Council, has been given the name of Rutherford School. It lies east of Edgware Road (near the old Metropolitan Music Hall) and north of Marylebone Road. The plan was completely dictated by the site: an old LCC school, Bell Street Co-Educational School, occupied a quarter of it at the south-east corner until it could be demolished on the completion of the new one (its area becoming the new school's playground), and there was little alternative to the L-shaped layout adopted.

The assembly-hall and two gymnasia form one block, and everything else—even the caretaker's house—is contained in a three-storey teaching block, nearly a hundred yards long. The two blocks are connected by a covered way, which continues through to the entrance-hall and the canopy over the main entrance.

This is one of the schools to adopt the decentralized 'House' system of organization. There are four house-rooms located on the first floor. House activities take place in these rooms and meals are eaten in them. There are two serveries, each serving a pair of house-rooms by lift from the ground-floor kitchen. The ground floor, reading from north to south, contains the caretaker's flat, the upper part of the two-storey boiler-room, the kitchen, the main entrance-hall with twin staircases leading out of it, the administration area with staff-rooms and, separated by a baffle lobby and a 4½in. brick wall, the metal and wood workshops, with their stores and separate goods entrance. There is a third stair-

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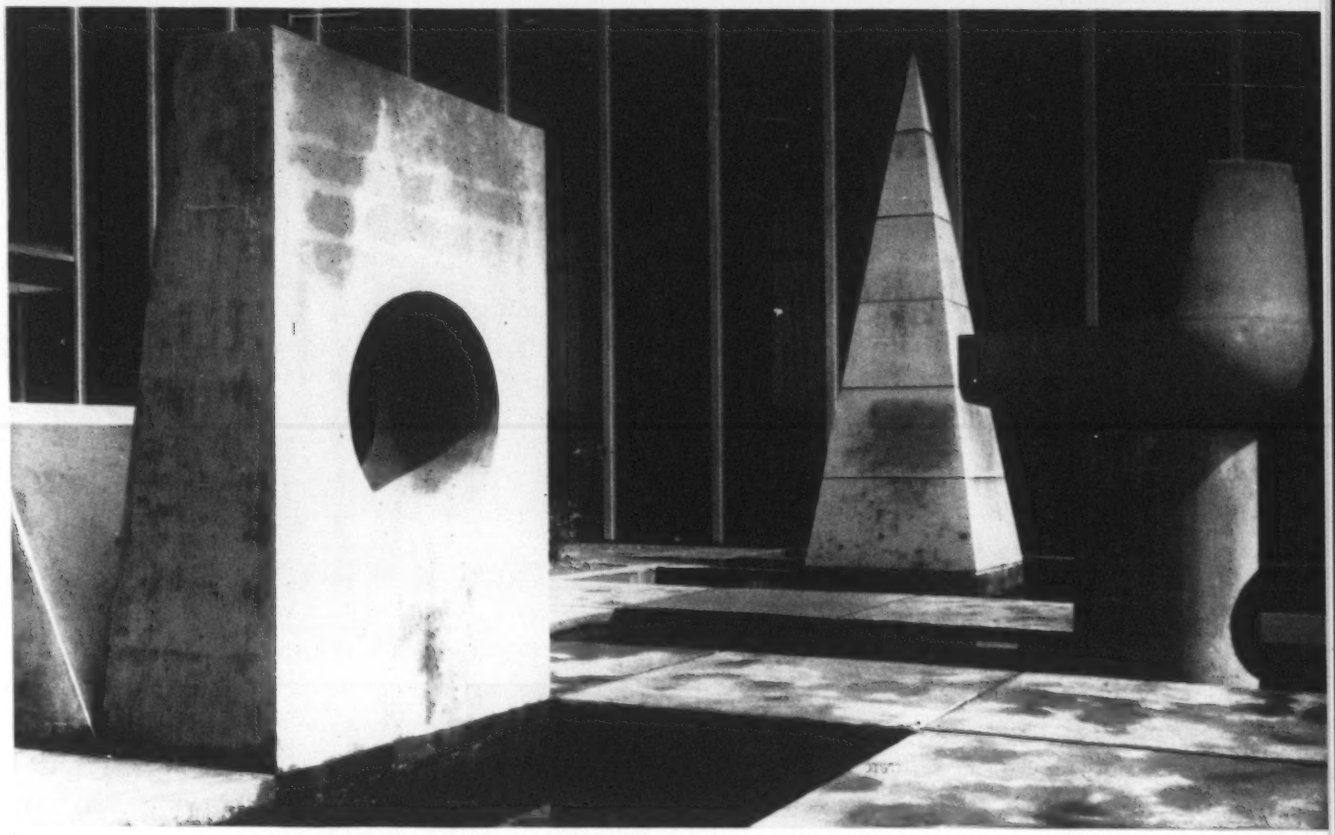
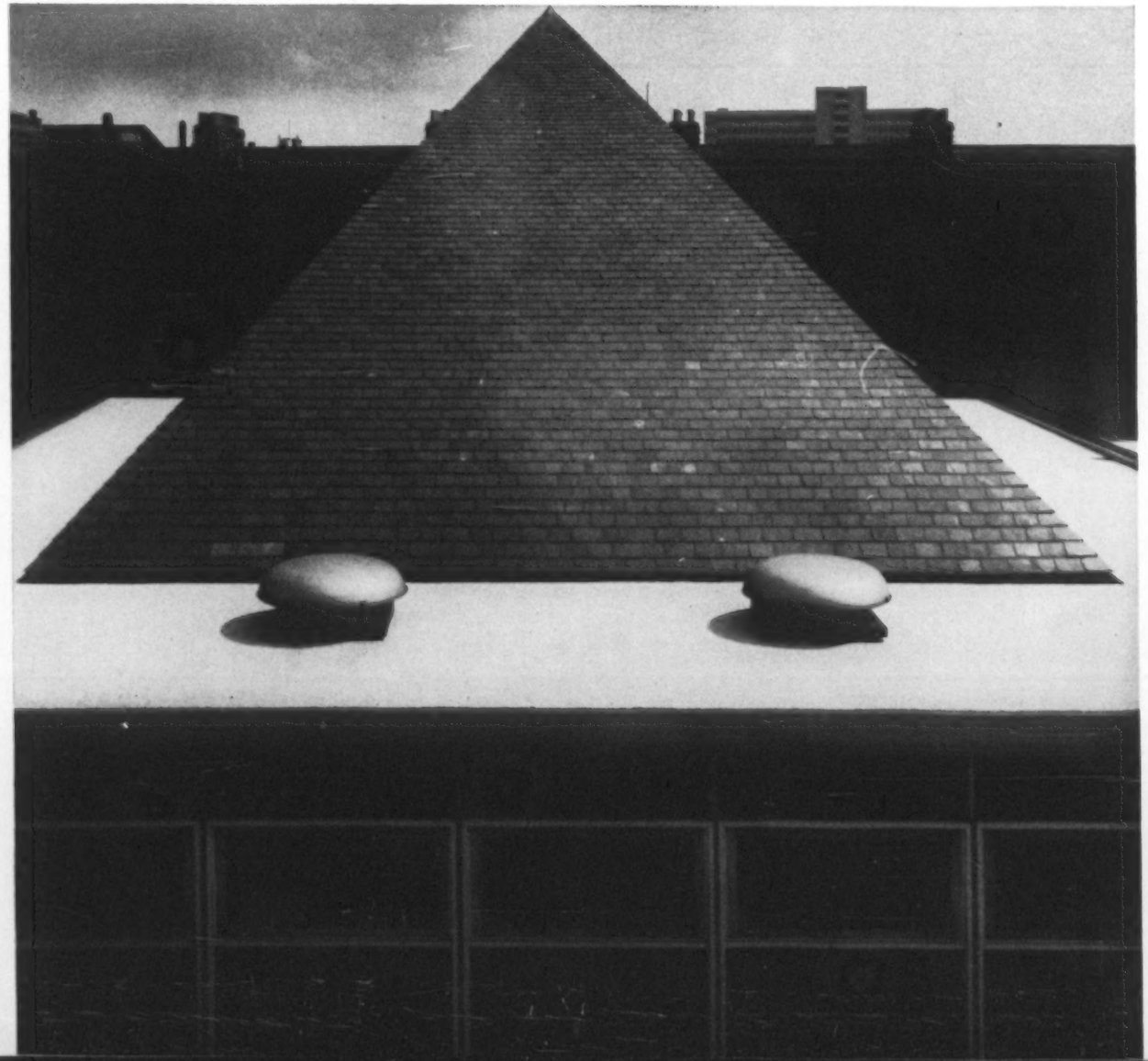
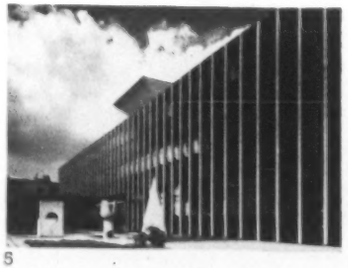


3

3 (facing page), a sculptural group, designed by the architect, in the paved garden between the teaching block and the street, alongside the main entrance. The objects are in precast concrete, except for the tip of the pyramid which is of granite. The object on the right houses a jet of water which, with the aid of a pump, circulates the water in the garden pools.
4, the slate-covered pyramidal roof of the assembly-hall (see section on facing page) seen from the teaching block.
5, street frontage of teaching block, looking towards the entrance.
6, paved garden between the two blocks, with glazed link on the right.

4





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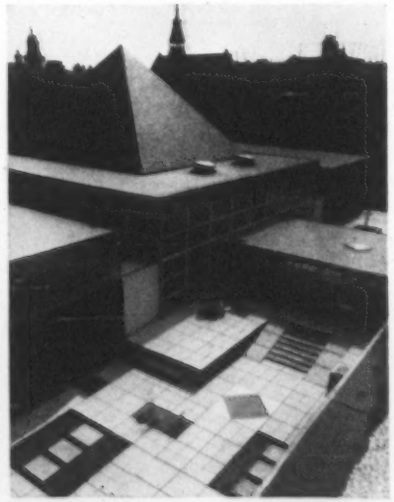

6

case at the south end of the teaching block, with lavatories on the half landing.

The first floor contains the house-rooms and serveries already mentioned, the main cloakroom accommodation, an Evening Institute and, above the workshops, all the laboratories. On the top floor are the library (with a projecting window facing north and west), the classrooms and the art room with a pottery kiln. On this floor, the central corridor is top lit for most of its length. The south staircase continues up to the biology greenhouse on the roof.

Changing-rooms on each side of the assembly-hall separate it from the two gymnasia. The changing-rooms can be used as dressing-rooms when the stage is used for public performances, and to this end the partitioning in the lavatories is adjustable. The assembly-hall has gallery seating in addition to the main seating, which is sunk 3ft. 6in. below the stage, instead of the stage being raised up.

The very simple elevations are relieved only by the pyramid roof over the assembly-hall and the inverted pyramid of the water-tanks on the teaching block. The teaching block is supported by a system of precast reinforced concrete structural mullions and beams at 3ft. 8½in. centres with projecting nibs to the mullions. Each mullion was cast in one lift about 40ft. high, and taken finished straight from the mould. Apart from a plastic varnish inside and silicone treatment outside, no further finish was applied. 15in. deep floor-beams at each mullion span back to columns at similar centres on each side of a central corridor. The teaching block is virtually two buildings—lengthways—as the beams are not continuous over the corridor. All services are taken down the central corridor at each level, and fan out to the rooms at each side, with the exception of the radiators under the windows, which are served continuously through prepared pipe chases in the structure. Floor slabs are also precast and are 3ft. 6in. square and 2½in. thick. A variety of suspended ceilings is slung under the beams. This system of structural mullions and beams is continuous over the three floors, and is broken only where large openings occur such as the main entrance and the goods entrance for the workshops.

The main entrance hall is faced in marble with the structure exposed above it. Here there are large precast

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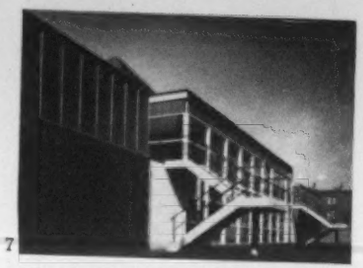

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8

9

10

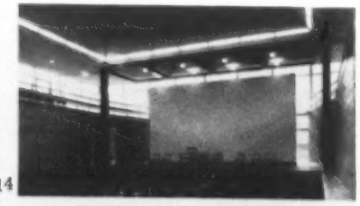
7, rear of assembly-hall block showing the two escape stairs.
8, the glazed link between the two blocks, looking from the entrance-hall in the teaching block towards the assembly-hall.
9, one of the two staircases leading from the entrance-hall to the teaching rooms above.
10, the opposite wall of the entrance-hall, faced with white marble, with window to the school-keeper's office.
11 (facing page), the two parallel blocks—teaching block on left—and the glazed link between them.

13

Photographs by H. de Burgh Galwey

12 (facing page), the assembly-hall, looking from the stage towards the entrance on the main axis of the building. The central floor is sunk. The stairs lead to galleries round three sides of the hall.

13, the two stairs leading to the assembly-hall galleries. The roof of the link building can be seen through the glazed wall on the left.
14, the assembly-hall looking towards the stage (photographed before the curtains were installed).
15, the rear gallery of the assembly-hall, forming a bridge across the entrance.
16, the end wall of the library on the top floor of the teaching-block, with display recess lit by a stained glass window.
17, one of the two gymnasia.
18, a typical craft room in the teaching block.



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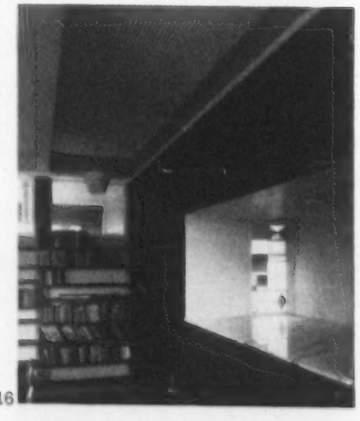
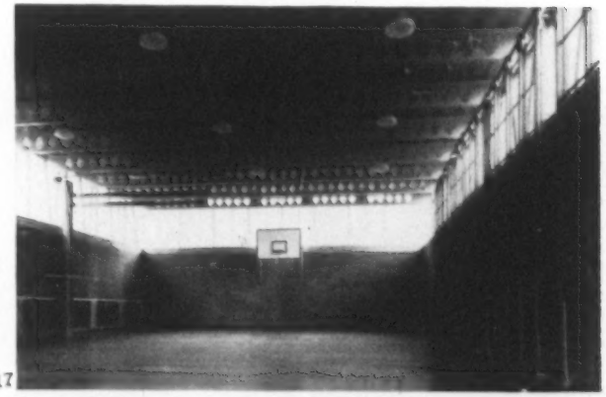


16

beams, necessitated by the break in the grid and the load of the water tanks, which is brought down at this point. Lateral stability is given by the staircases and surrounding brick walls and the grouting-in of the floor slabs; transverse stability likewise, as well as by certain solid brick transverse partitions and the white glazed brick end walls.

The gymnasia are of a wide cavity-brick construction concealing 18in. by 9in. brick piers, which support short-ended portal frames of cut and welded steel beams holding up the roof. They are lit by clerestory windows. The assembly-hall is a steel-frame structure. Four cranked raking beams, which form the pyramid and the flat roof, are supported by four steel box columns. Intermediate supports bear on the four rakers. The glazing is in heavy section timber frames which take part of the wind load. The pyramid is faced with green slates, mitred and secretly flashed at the angles.



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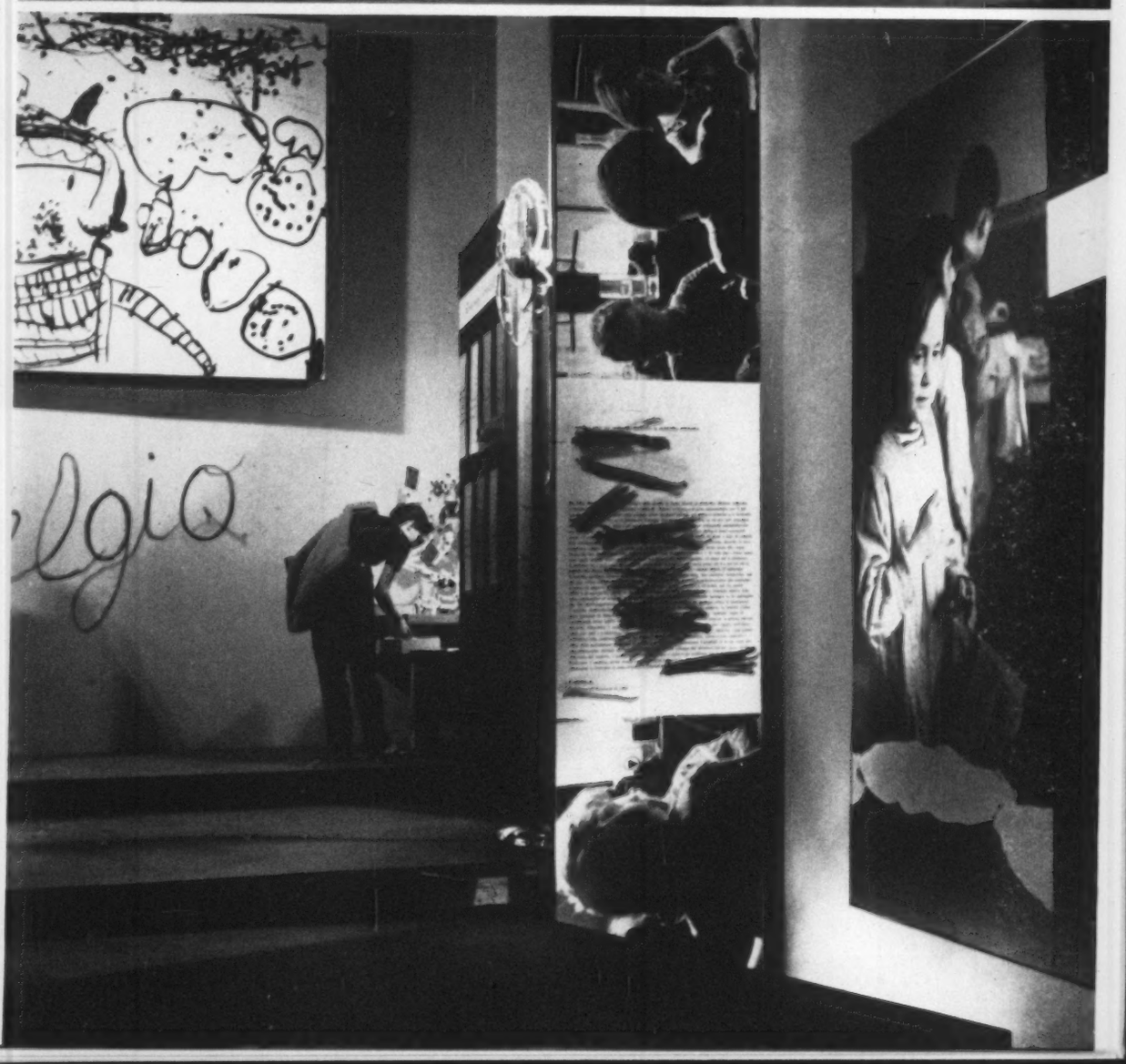

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12th Triennale

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A bold decision in view of the popular appeal of the existing type of Triennale, it resulted, perhaps inevitably, in an exhibition more interesting for what it had to say than the way it said it. However, what was encouraging from the British point of view was the appearance of the first official British exhibit at any Triennale, a full size CLASP* primary school (*a* on plan; also page 358) which proved to be one of the high spots of the show, and, thanks to good landscaping, looked perfectly at home in the English-style Parco Sempione. The only other exhibit housed in a separate structure outside the Palazzo dell'Arte, was that of the United States (*b* on plan; also page 359) contained in a cruciform aluminium house.

Unfortunately, the only foreign exhibitors who took the theme of the exhibition as a challenge were Britain, Switzerland, Mexico, Belgium and the USA. Nearly all the others (with the exception of Holland which had a fascinating lantern slide show but nothing to do with the subject) were content to stick to a showroom type of display and a visitor not knowing the theme would be unlikely to guess it. All the same, visually the Finnish and Danish sections were outstanding.

The Italian section which occupied nearly the whole upper floor of the Palazzo was a strange mixture. A nightmare introductory room with bilious green lighting and the most menacing looking chairs imaginable was followed in the main galleries by a serious study of the problems of housing and education in the varying contexts of rural, suburban and urban living conditions. These were illustrated by a clever use of rooms sunk below the level of the spectator. Another most successful device was the illustration of a Milanese townplanning scheme by the use of a large suspended model viewed through periscopes from below (page 361).*

On the subject of the school the Italian thinking was clear and up to date with some good furniture and equipment on show, but home was a different matter altogether. In neo-liberty style with everything heavy, dark and done in the hardest and most

*Consortium of Local Authorities Special Programme of School Building: a development group led by Nottinghamshire County Council.

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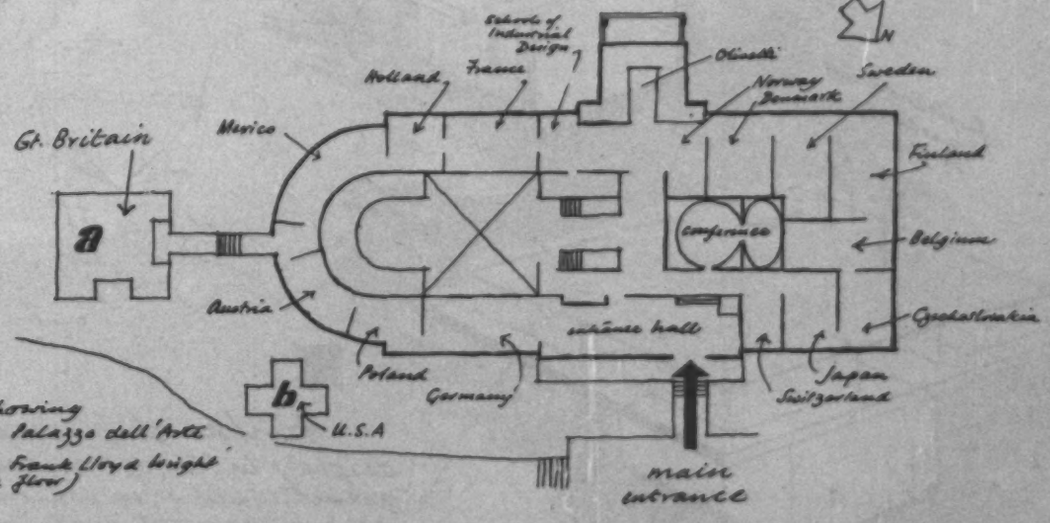

Sketch plan showing Ground Floor of Palazzo dell'Arte (Italian section & Frank Lloyd Wright exhibition on 1st. floor)

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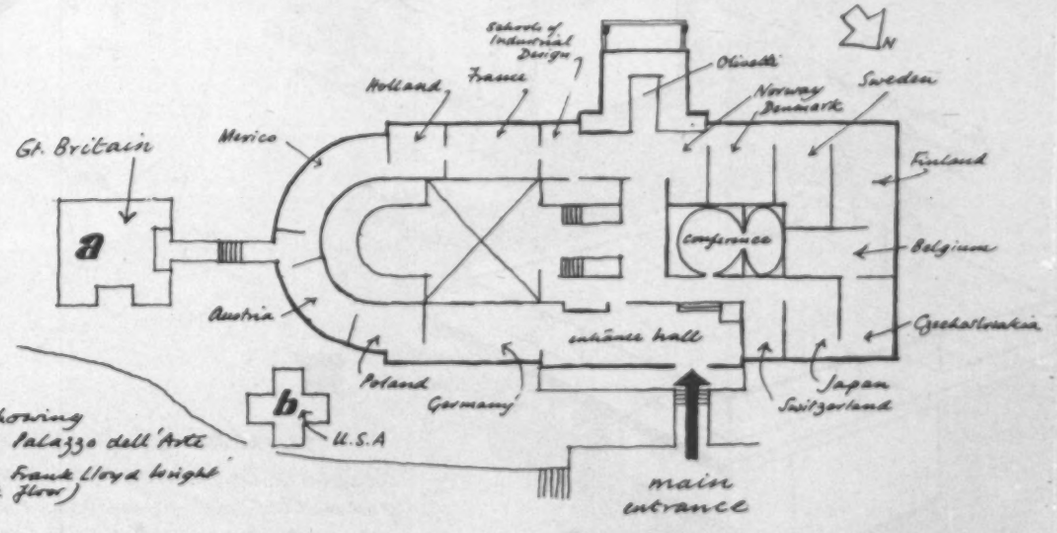

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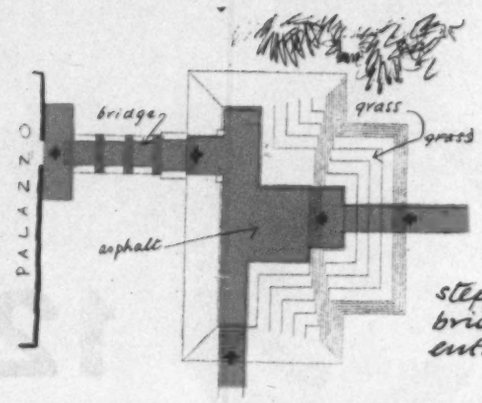
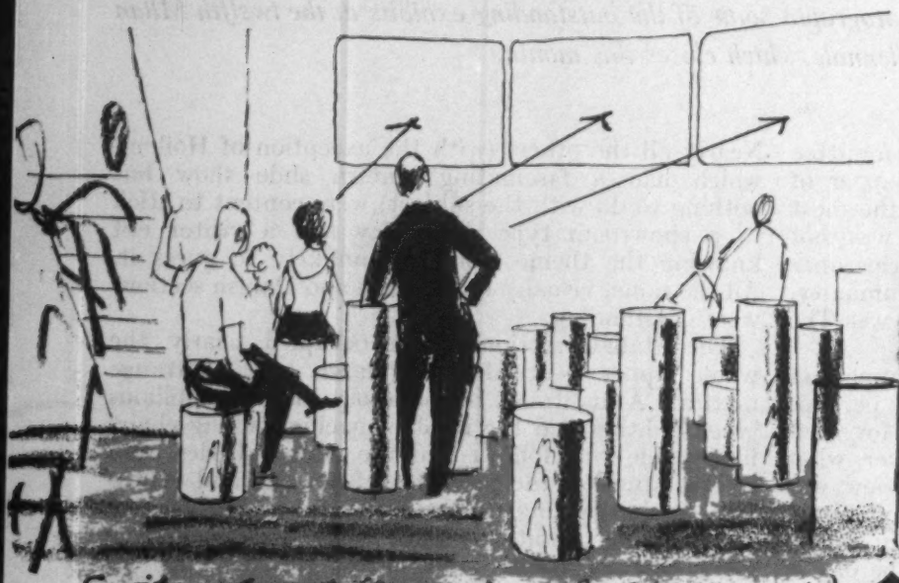
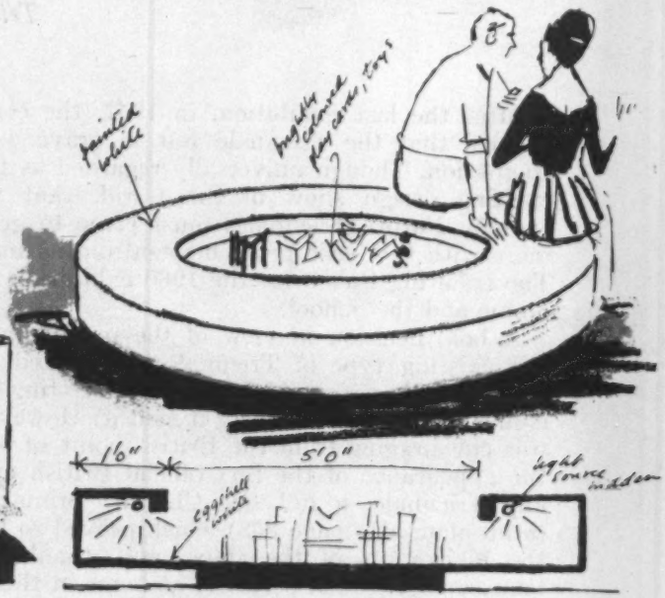
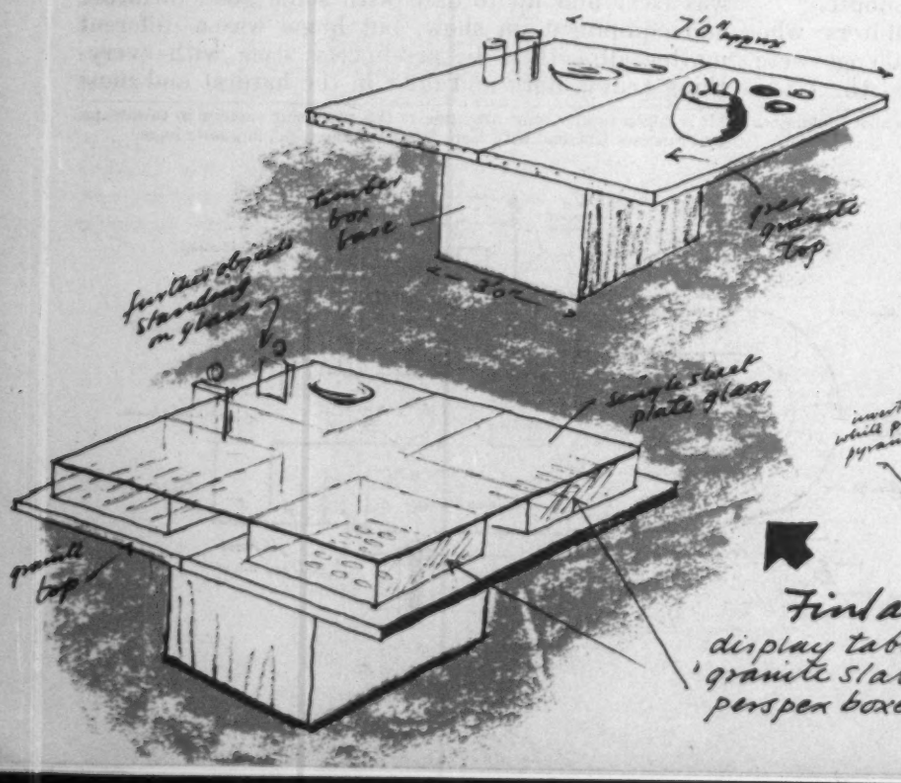


stepped mound with bridge leading to entrance hall

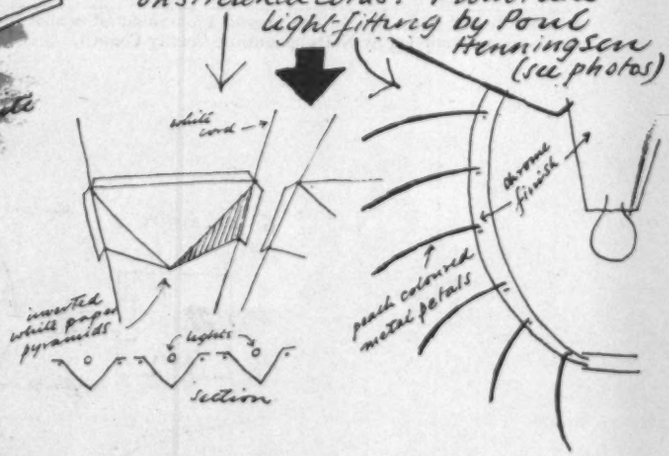




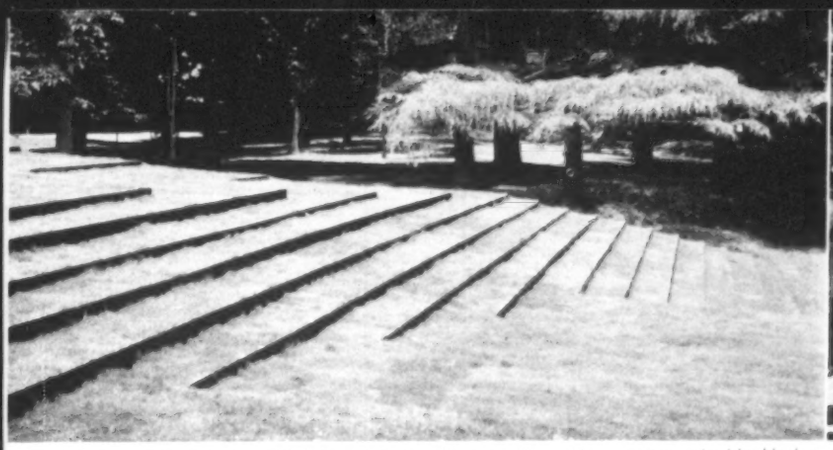
Switzerland (Georges Brera, Paul Waltenspuhl) Informal cinema with 3 screens. Brilliant film about Swiss schools. Audience sit or lean on "logs" of varying height. Note also display case/seat ↑ (see photo opposite)

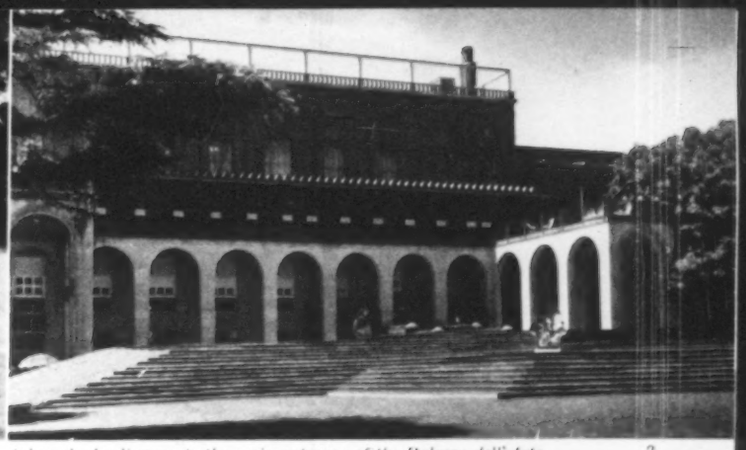


Denmark (Poul Kjaerholm) the best lit display; light diffused by ceiling of inverted paper pyramids on stretched cords. Flowerlike light-fitting by Poul Henningsen (see photos)



Finland (A. Narmesniemi) Very neat display tables of standard size. Box base, granite slab +, in some cases (see photo) perspex boxes & plate glass top.





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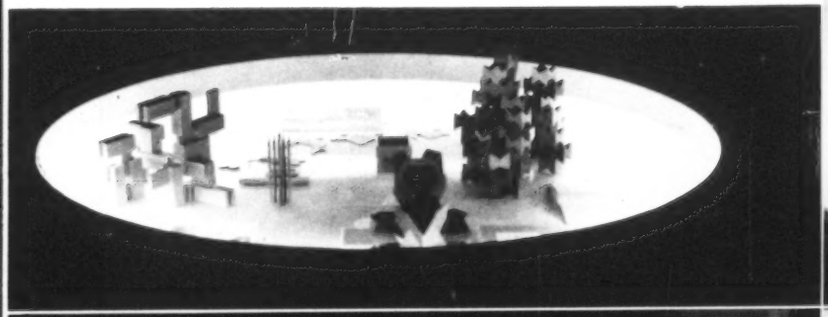

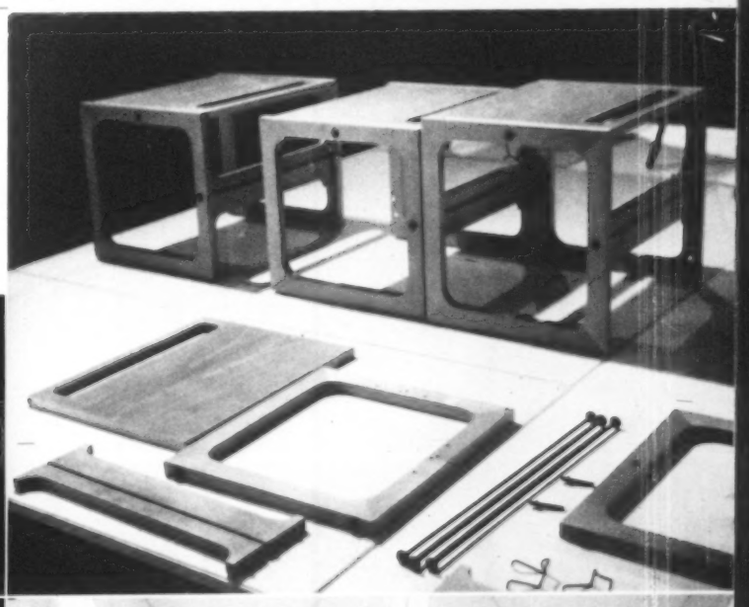

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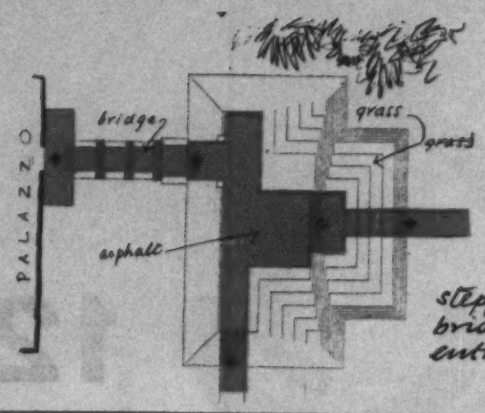

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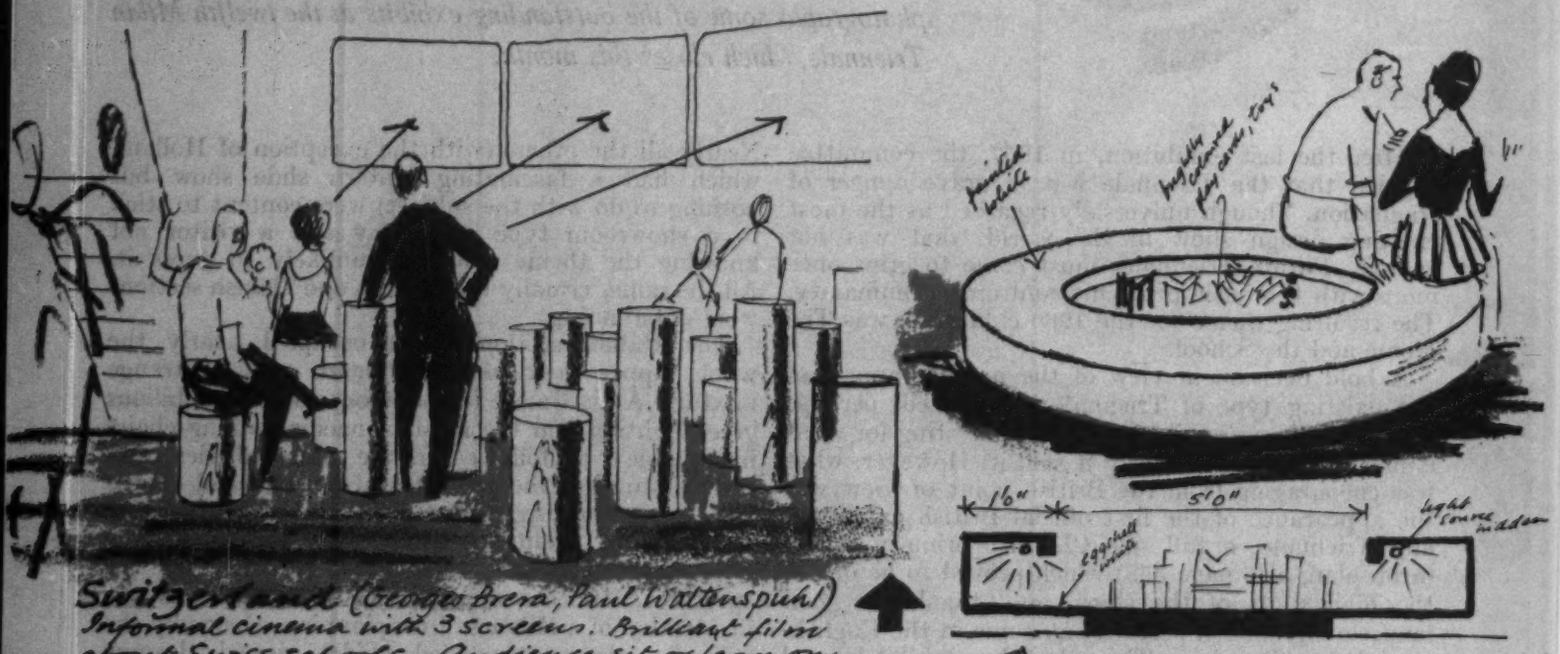

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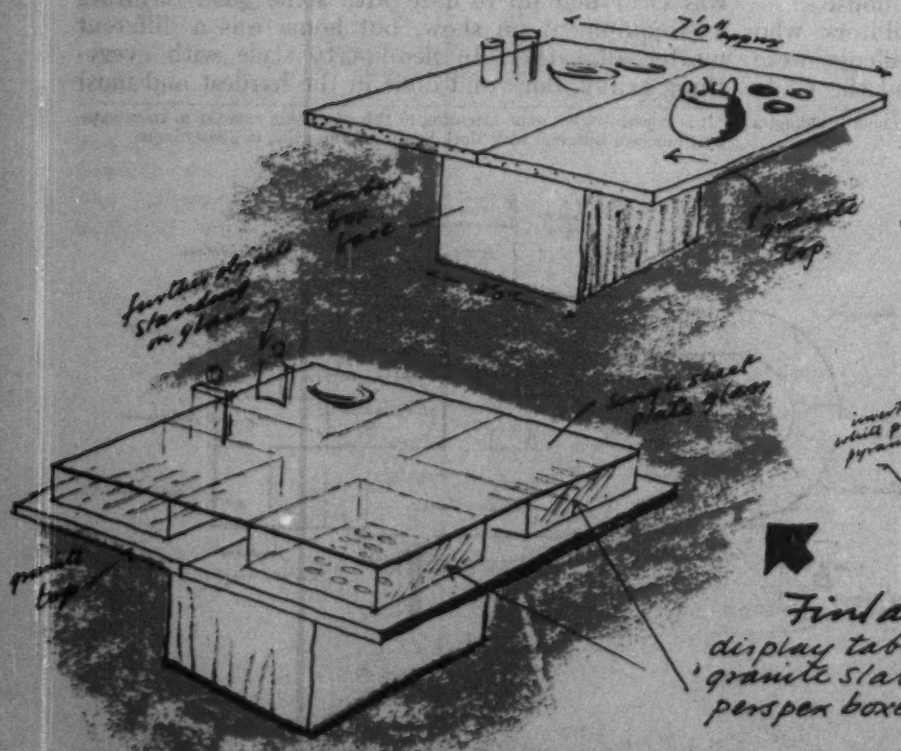

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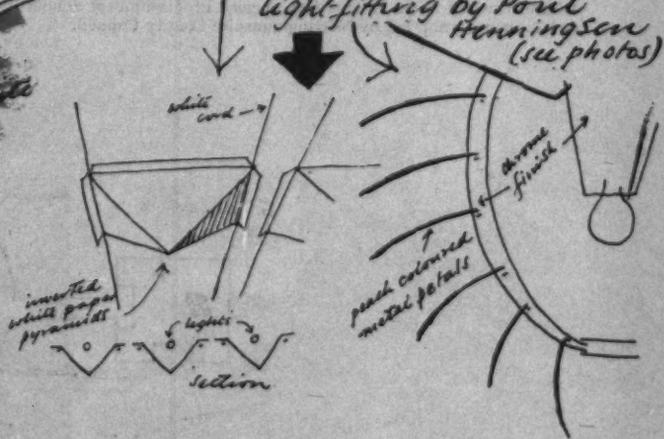

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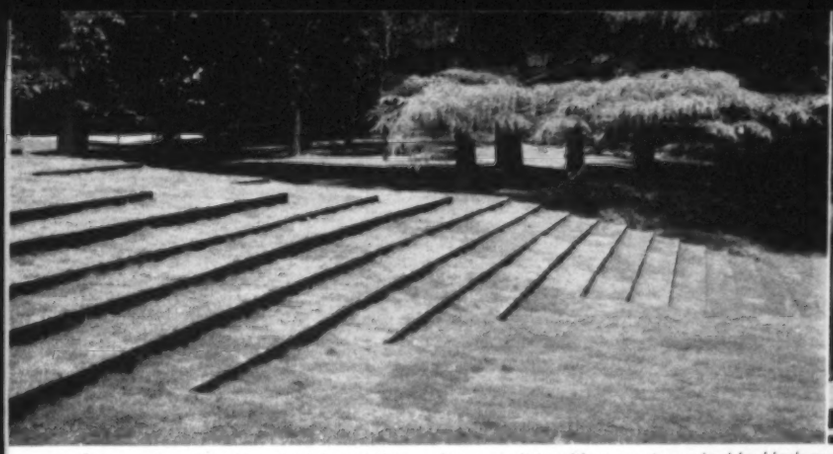

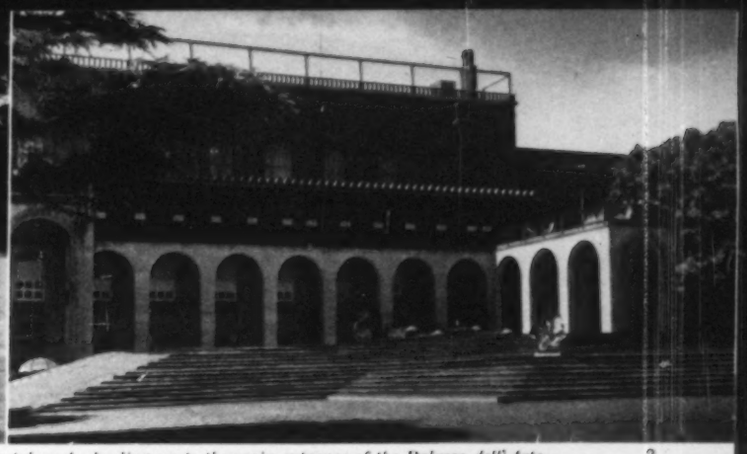

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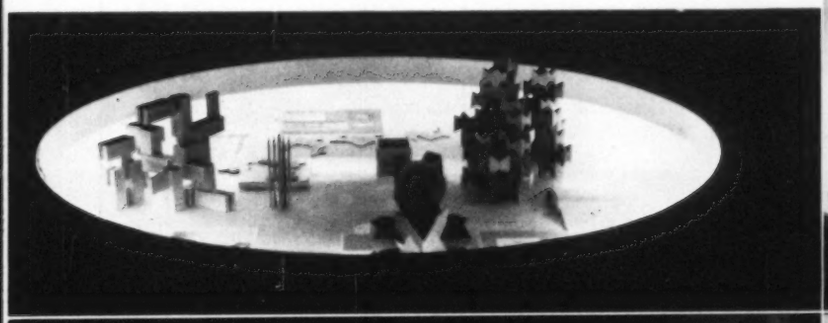

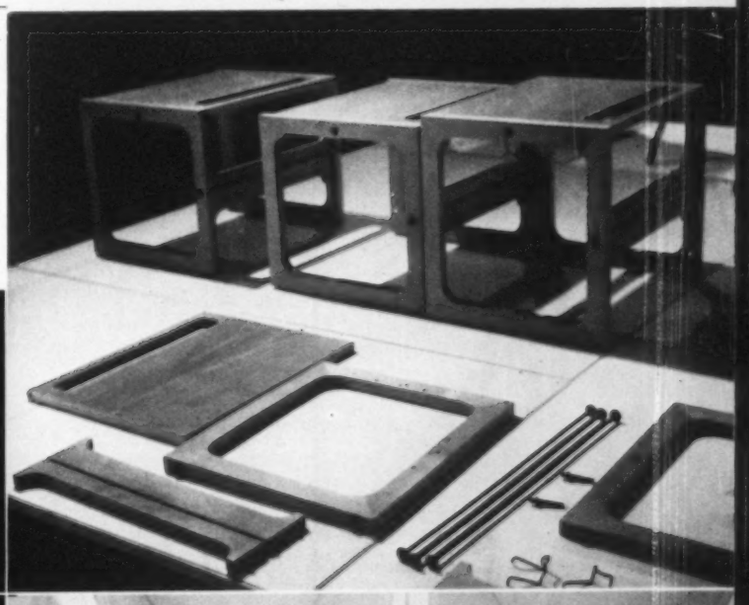

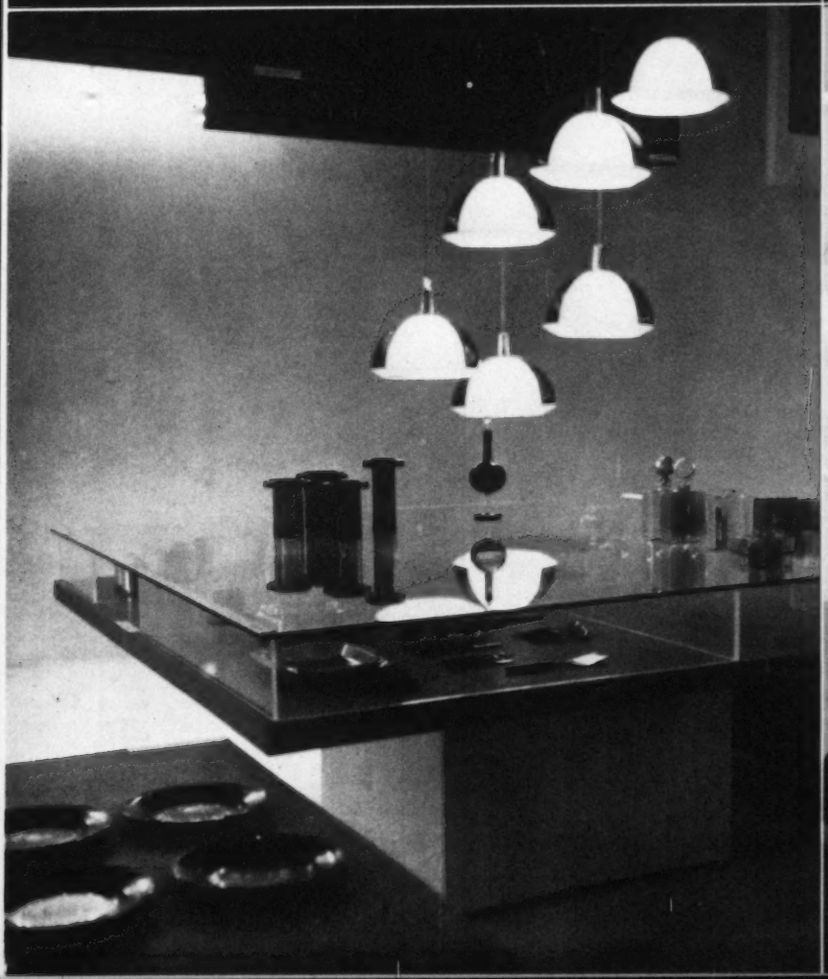

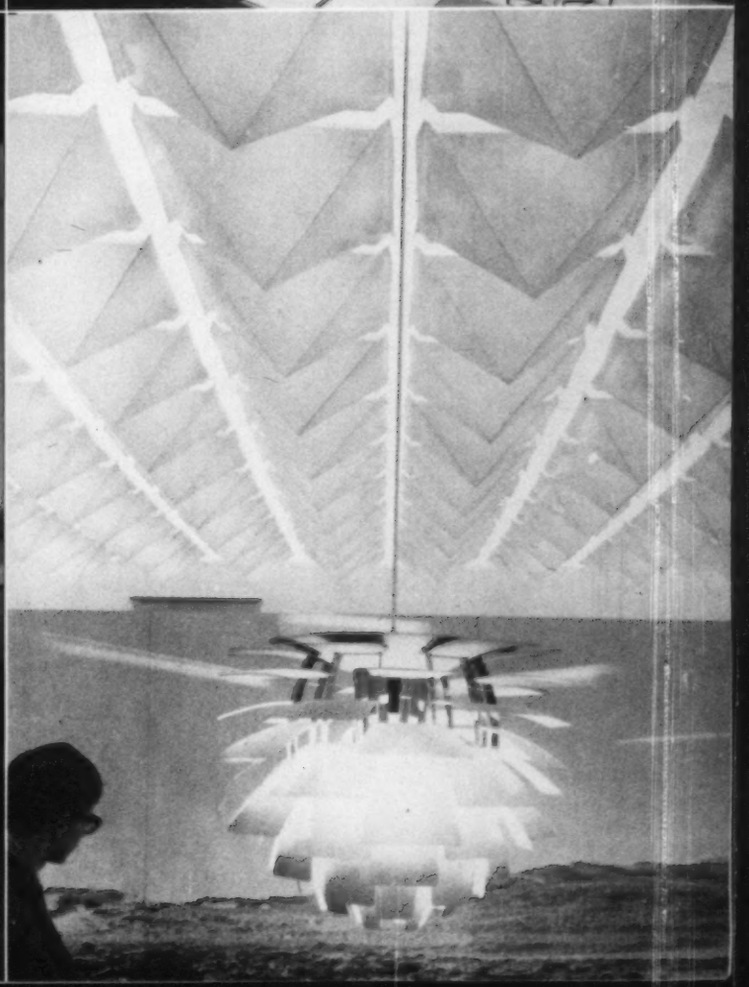

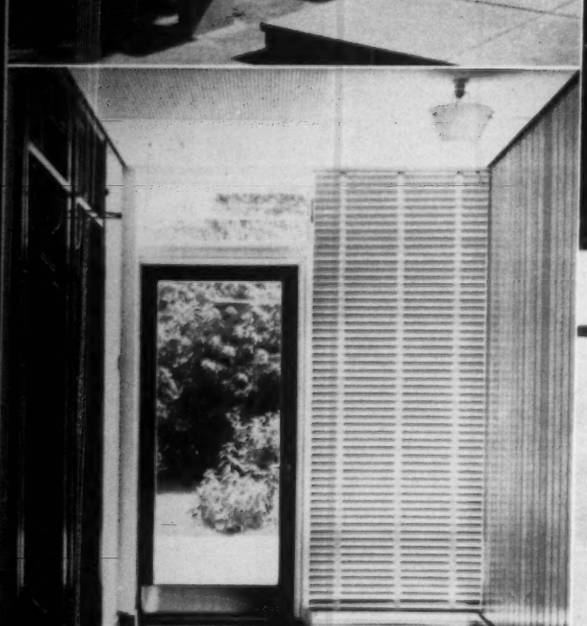

7/8/10 9/11

7, the entrance to the British school (architect W. D. Lacey) showing the treatment of the forecourt. The detailing was trim both inside, 8, and out, 9.

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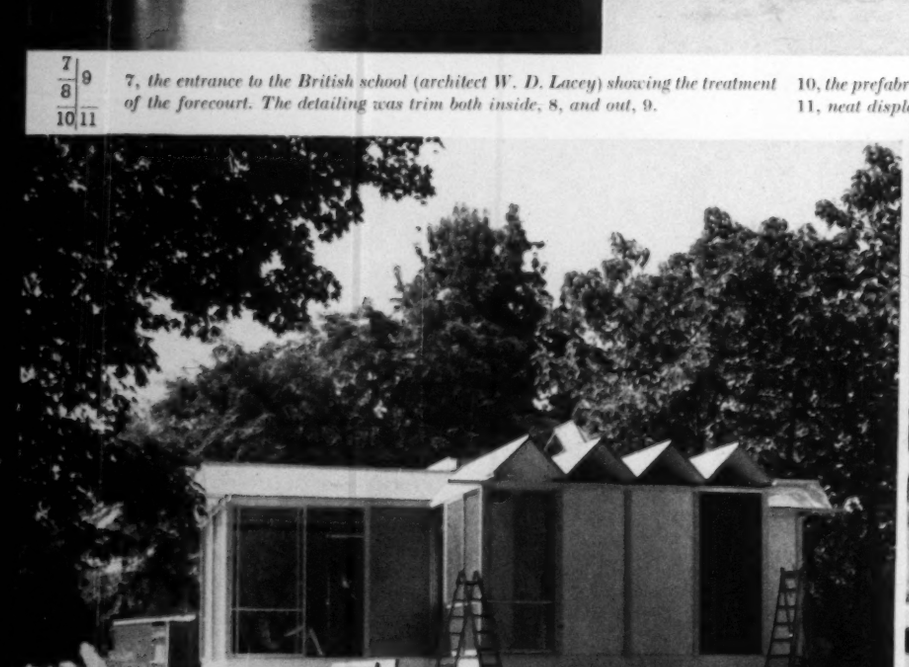

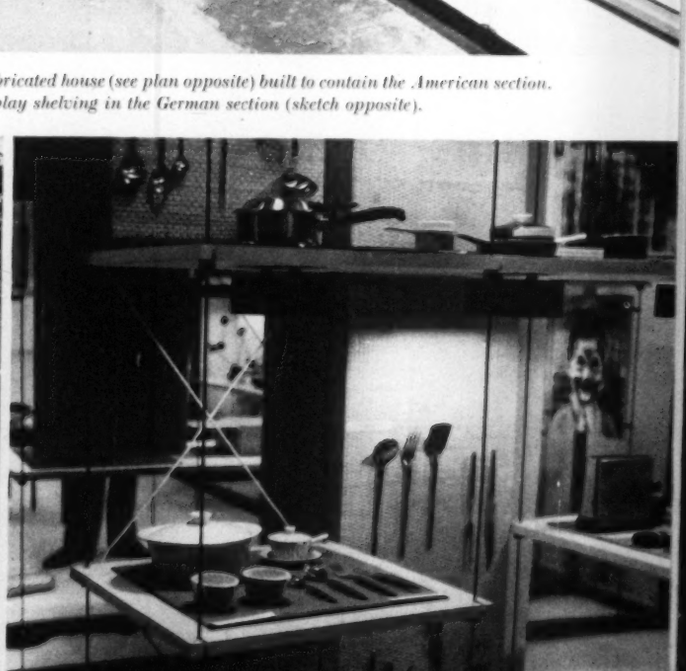

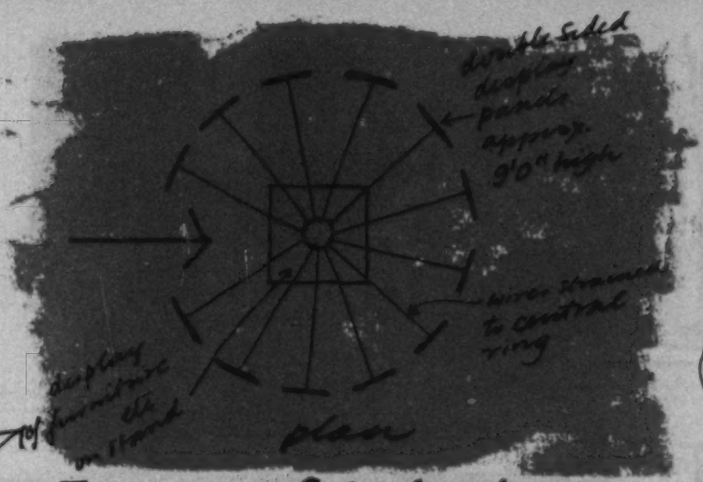

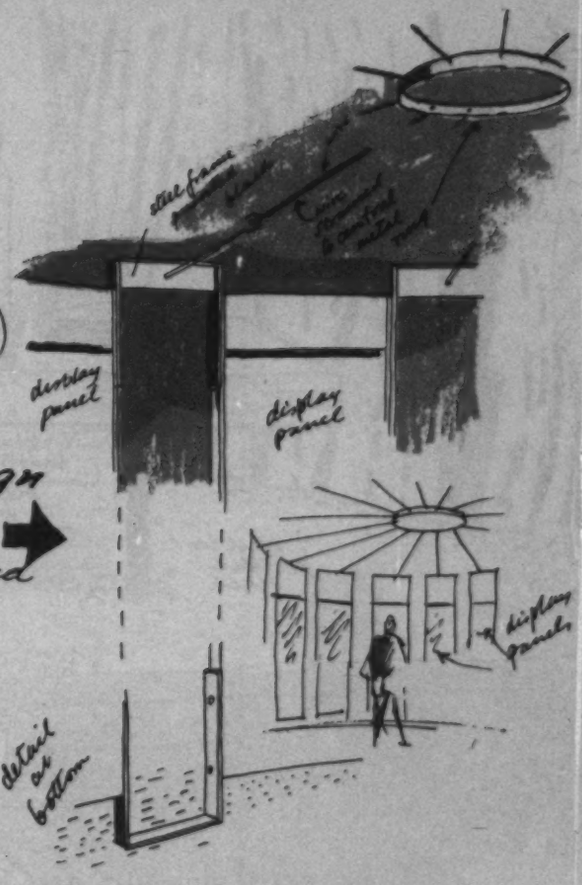

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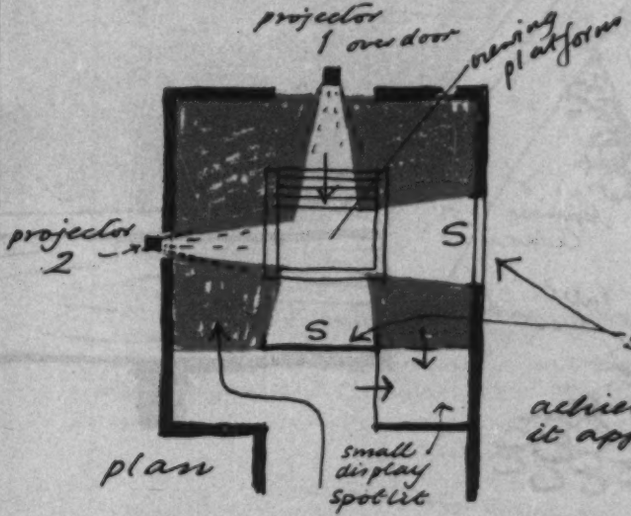
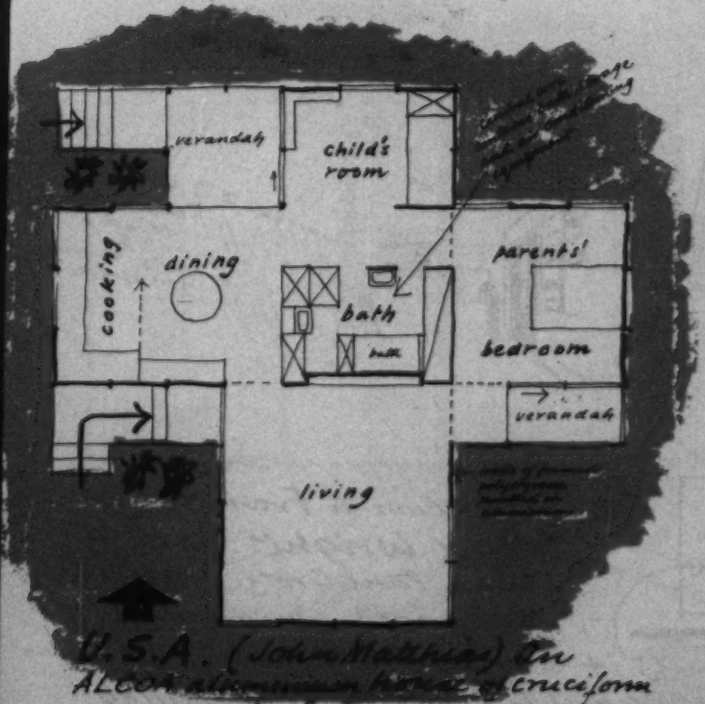
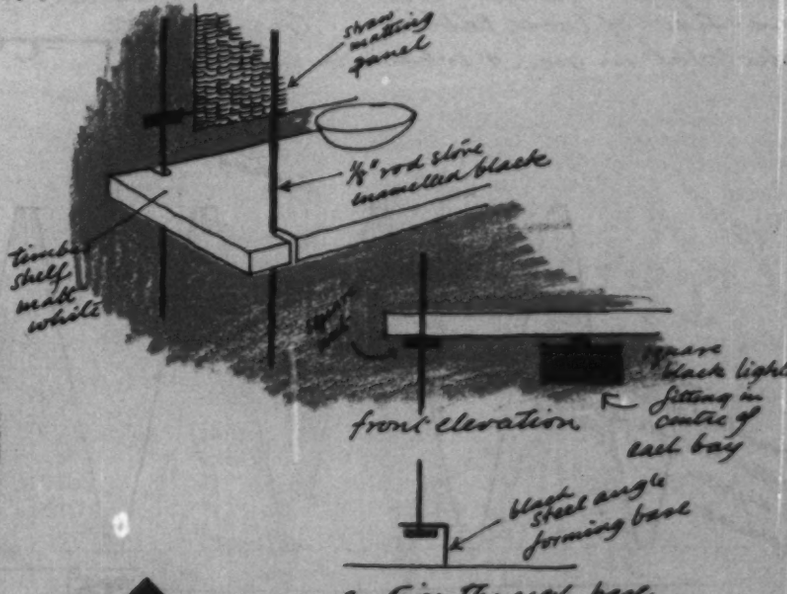


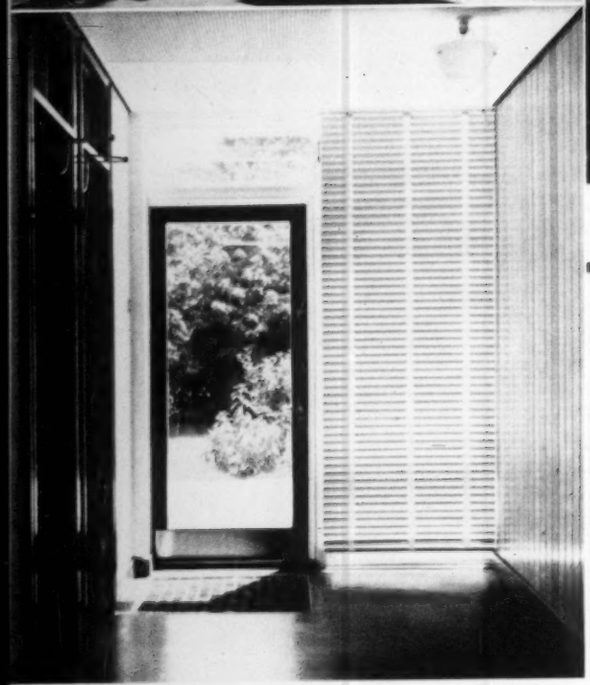
Holland (Oyevaar, Stolle, Van Good) Brilliant colour slide show. Two screens (S) at right angles to each other. Pictures change out of sequence so double surprise is achieved 1. subject of next picture? 2. where will it appear?



U.S.A. (John Matthias) An ALCOA aluminium house of cruciform plan: central ~~screened~~ core contains storage, bath, air conditioning plant.


straw matting panel
½" rod steel enamelled black
timber shelf matt white
square black light fitting in centre of each bay
front elevation
black steel angle forming base
section through base

Germany
Uniform display shelving crisply designed and, most important, equally crisply made. (see photo)



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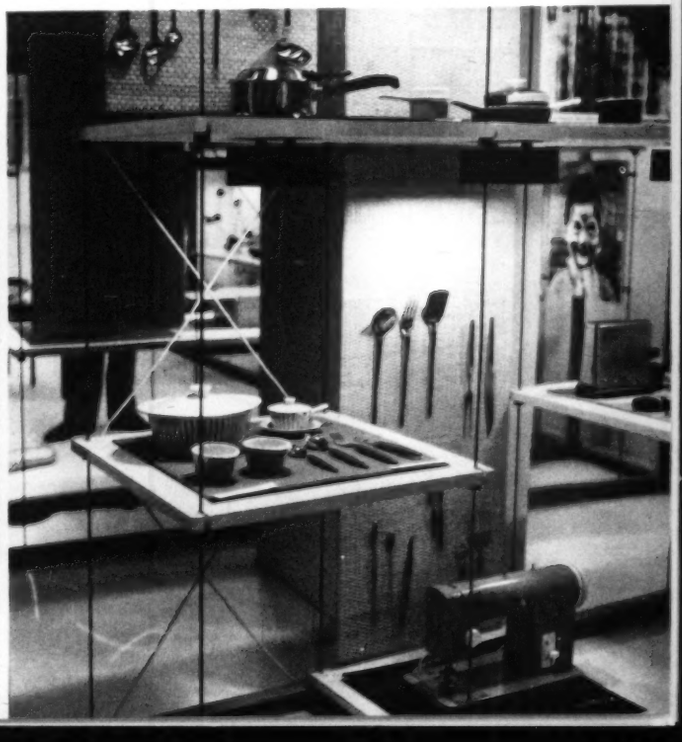

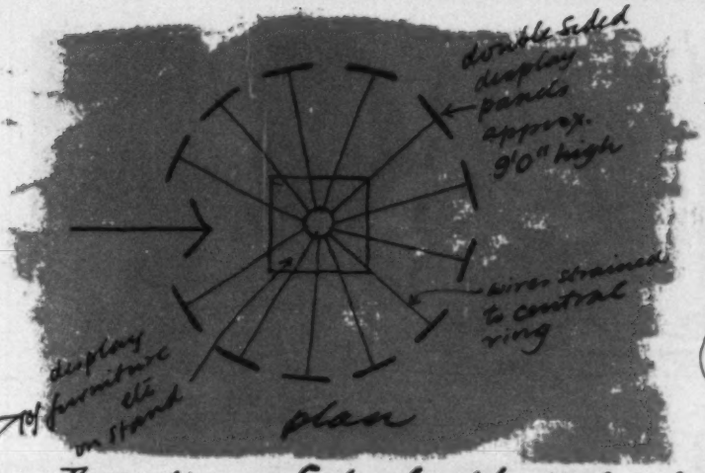

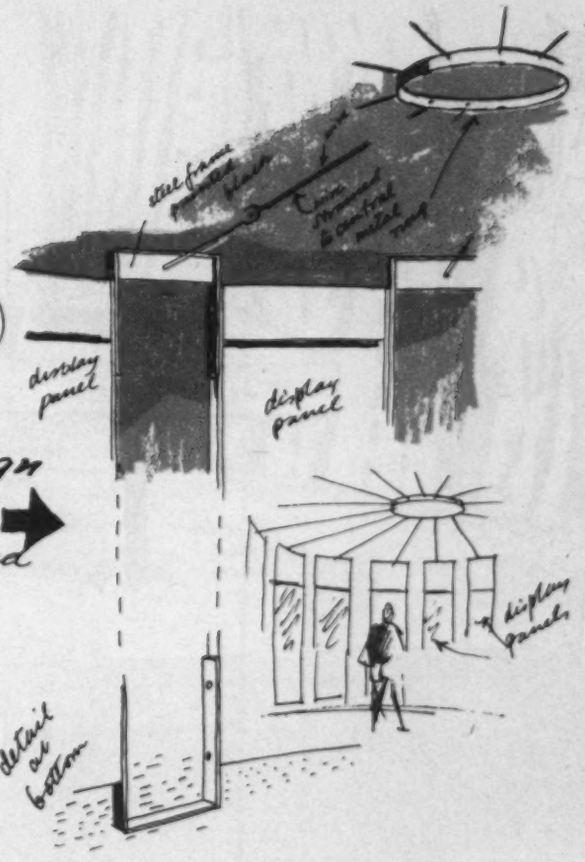

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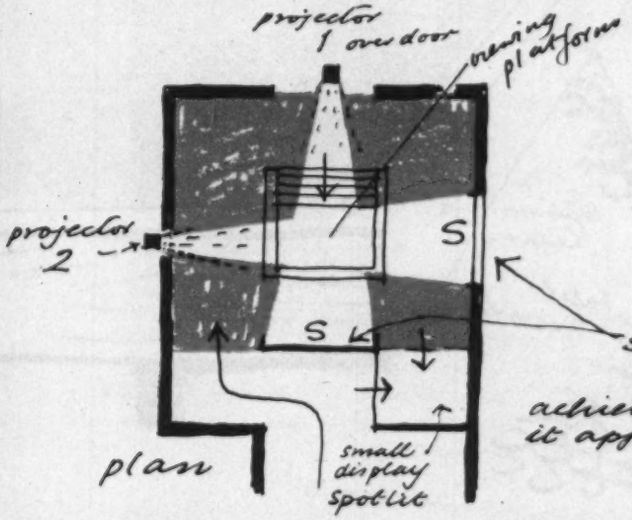
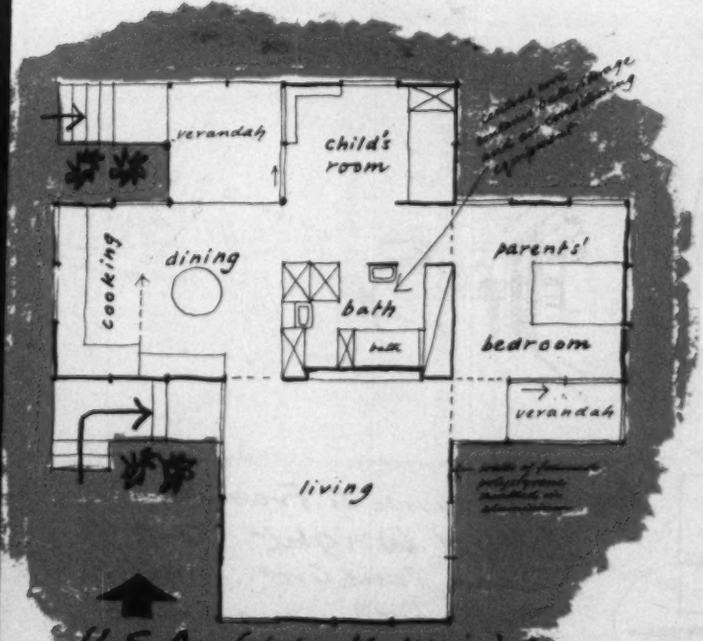
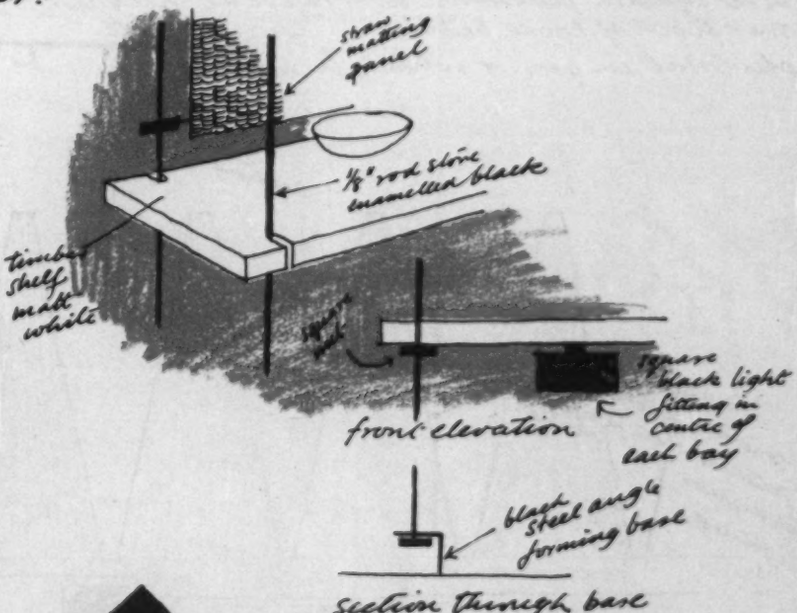


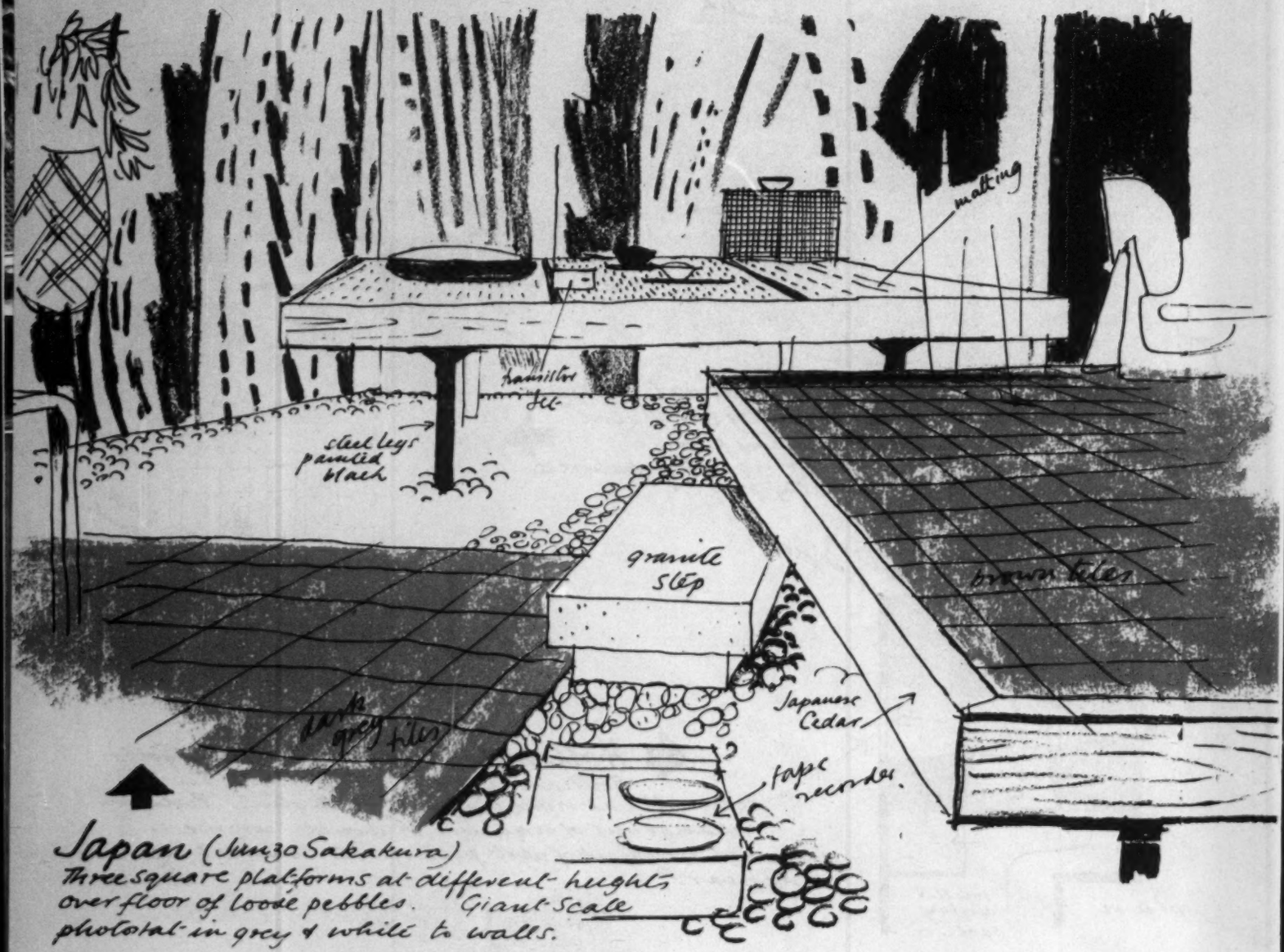
Holland (Oyevaar, Stolle, Van Gool) Brilliant colour slide show. Two screens (S) at right-angles to each other. Pictures change out of sequence so double surprise is achieved 1. subject of next picture? 2. where will it appear?



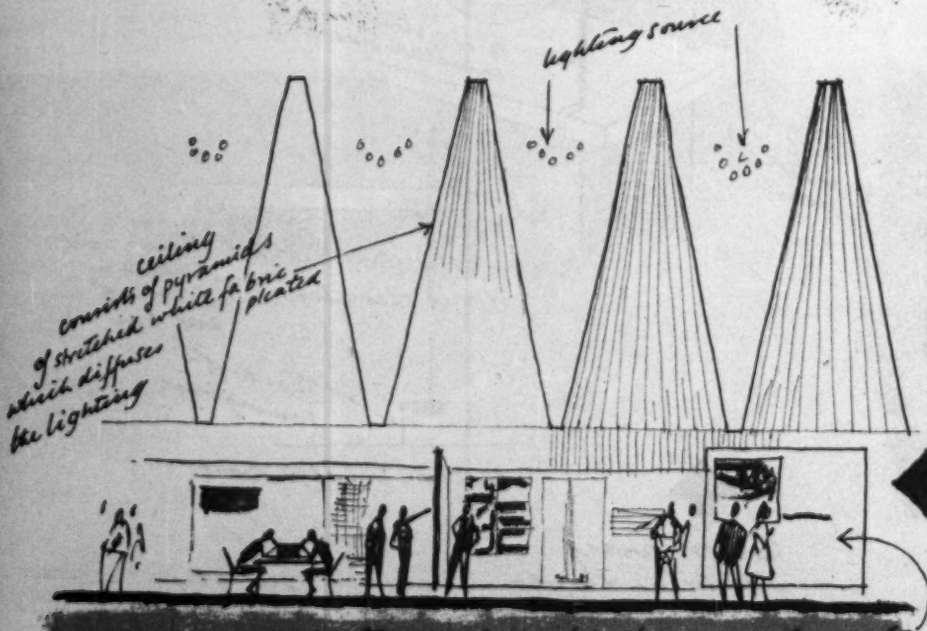
U.S.A. (John Matthias) An ALCOA aluminium house of cruciform plan: central service core contains storage, bath, air conditioning plant.

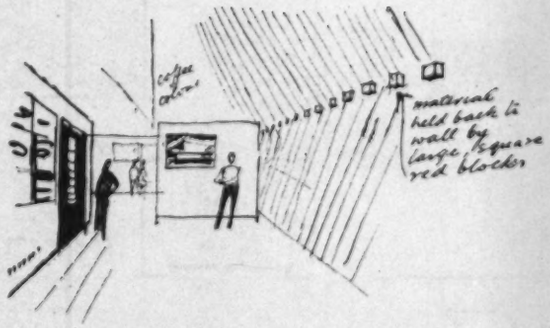

straw matting panel
½" rod stove enamelled black
timber shelf matt white
square black light fitting in centre of each bay
front elevation
black steel angle forming base
section through base

Germany
Uniform display shelving crisply designed and, most important, equally crisply made. (see photo)

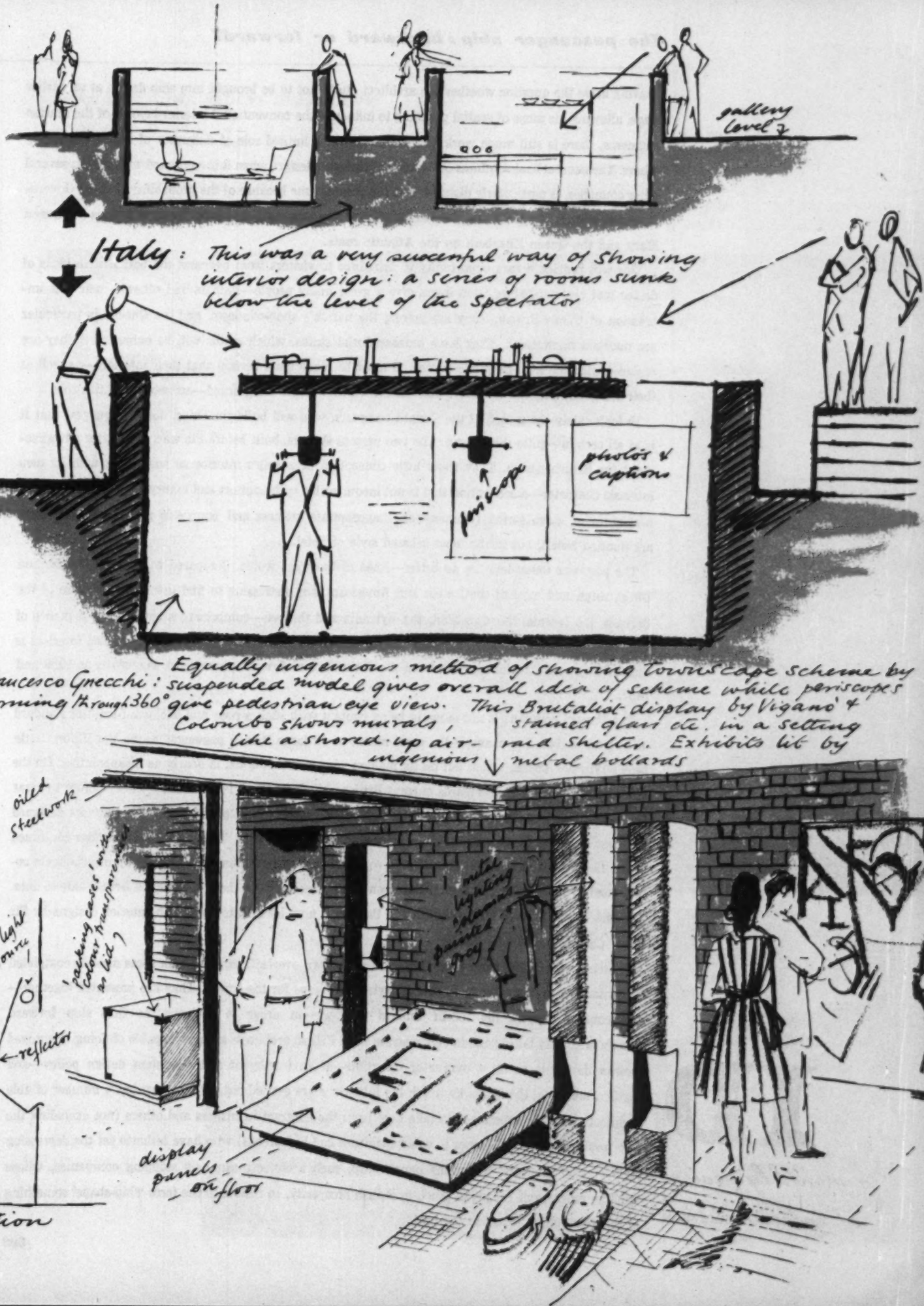


Japan (Junzo Sakakura)
Three square platforms at different heights over floor of loose pebbles. Giant scale photostat in grey & white to walls.





The commemorative exhibition to **Frank Lloyd Wright** (Carlo Scarpa, Paul Grotz, Walter McQuade). Impressive photographic display on panels + stereo. colour slides & a small cinema. Soft, even light due to tented muslin ceiling.



Italy: This was a very successful way of showing interior design: a series of rooms sunk below the level of the spectator

Equally ingenious method of showing townscape scheme by Francesco Gnecchi: suspended model gives overall idea of scheme while periscopes turning through 360° give pedestrian eye views. This Brutalist display by Vigano & Colombo shows murals, stained glass etc. in a setting like a shored-up air-raid shelter. Exhibits lit by ingenious metal bollards

The passenger ship : backward or forward?

Leaving aside the question whether the architect ought not to be brought into ship design at an earlier stage, allowing his sense of spatial planning to influence the conventional interior layouts of the marine engineers, there is still much work for him to do in his limited role of decorator of spaces devised by others. The general backwardness of British ship interior design, when it is compared with that in several other countries, is particularly disturbing at the present time because of the probability that the Government will shortly be subsidizing the construction of two new giant passenger liners to replace the Queen Mary and the Queen Elizabeth on the Atlantic route.

This will provide a rare opportunity to introduce to visitors from overseas the best British ideas of design and craftsmanship. Such liners give a great many people—tourists and others—their first impression of things British. They are among the nation's shop-windows, and the Queens in particular are national institutions. They have ambassadorial status, which status will be enhanced if they are replaced with the help of public money. It must be made quite certain that their interiors—as well as their sea-going qualities and their machinery, which we take for granted—are worthy of this role.

Unfortunately the record of the Cunard company, who will build the ships, does not suggest that it is at all certain—quite the reverse. The two present Queens, built before the war, are a poor advertisement for British design. They show little conception of a ship's interior as something with its own intrinsic character—a conception that is not incompatible with comfort and luxury—and display instead a mixture of naive period reminiscence, inappropriate artiness and bourgeois pretentiousness. They are floating hotels, but in the most debased style of hotel.

The post-war Cunarders are no better—some of them are worse. Compared with recent Danish and Dutch ships, and most of the Italian and American, it is distressing to find interiors like those of the Caronia, the Ivernia, the Carinthia, the Sylvania and the rest—comprising a bewildering sequence of banalities—representing contemporary British design. A number of typical recent Cunard interiors is illustrated opposite, including some from the Carinthia and Sylvania, completed as recently as 1956 and 1957.

The Cunard company is not alone in being content with such a poor and backward-looking standard of interior design. For example the most recent of all large British passenger boats, the Union Castle Line's Windsor Castle, which left on its maiden voyage this August, is nearly as disappointing. On the other hand the picture, as regards current British ship decoration, is not wholly black. Before the war the Orient line was the only one to seek a sensible answer to the problem and the interiors designed by Brian O'Rorke for Orient line ships were pioneers of their kind. Today the same line has continued in the lead; their Oriana, on the point of completion, designed internally by a group of architects co-ordinated by Misha Black of Design Research Unit, promises to be the best-designed British ship to date. And the P and O have followed with the Canberra, now being fitted out with interior designs by Sir Hugh Casson and Neville Conder.

Sketches of interiors from these two ships are shown overleaf, together with some already completed ship interiors on a smaller scale that likewise offer hope for the future. They are presented together—and contrasted with the recent Cunard interiors—in order to indicate the firm step forward Britain is already taking and to demonstrate what British architects are now capable of doing. Improved interior design is partly a matter of intention—of an intelligent and consistent design policy—and partly a matter of the hands by which the intentions are carried out. Britain now has a number of able architects with the experience to take over from the contract furnishers and others (not excluding the directors' wives when it comes to cabin-furniture and bedspreads) who have hitherto set the depressing style of ship interiors. Given the opportunity, such architects can help shipping companies, whose building programme means so much to British prosperity, to restore to the term 'ship-shape' something of the connotation it had in the past.

ID
a monthly review
of interior design

BACKWARD: SOME RECENT CUNARDERS

The interiors of the ships built since the war by the Cunard company, of which the photographs on this and at the top of the next page are typical, show but little appreciation of the principles of good design or the rich and varied resources of modern designers. With their over-elaborate mixture of pretentious decorators' styles, they present a depressing backward-looking picture of British ship architecture which is somewhat relieved, fortunately, by a few attempts by other companies to look forward instead, illustrated on the following pages.

1

2

3

1, the first-class restaurant in the Sylvania (built in 1957), reproduced large to show in all their horror the decorator's mixture of reminiscent styles in which this latest Cunarder is fitted out. 2, the first-class lounge in the Carinthia (1956), based on a different period but no more shipshape than the other. 3, the Balmoral restaurant in the Caronia (1948): modernistic instead of period, but no more agreeable or appropriate.

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BACKWARD: SOME RECENT CUNARDERS

Two first-class cabins: 4, in the Caronia (1948); 5, in the Sylvania (1957). Their heavy, tasteless and over elaborate styling can be contrasted with the nautical simplicity (which does not destroy, but rather enhances, the feeling of luxuriousness, in the Canberra's cabins at the foot of the opposite page.

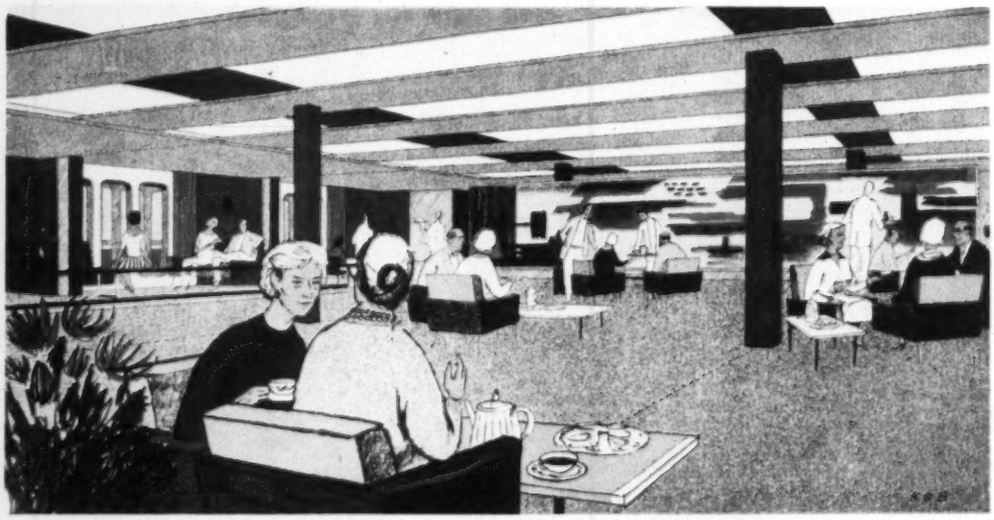
4

5

FORWARD: THE ORIENT LINER 'ORIANA'

This ship, of 40,000 tons, carried forward the good work that the Orient Line began almost alone in the nineteen-thirties. Design Research Unit have been in charge of her interior, with several other architects (see caption below) working in association with them. Wall decorations, paintings, textiles, china and every detail have also been considered with an unusual degree of care and enterprise. Oriana leaves on her maiden voyage on December 3.

6, the Princess Room (first-class lounge and library) by Design Research Unit. Dividing the two parts of the room (background of picture) is a 30 ft. long wall painting by John Piper. 7, first-class restaurant by R. D. Russell and Partners. The ceiling is lined with ash boarding and acoustic tiles. The timber is Brazilian rosewood. Curtains are Thai silk. 8, a first-class double cabin, also by R. D. Russell and Partners. The timber is natural mahogany. 9, the tourist-class restaurant, by Ward and Austin, with a wall decoration of plastic panels by Anthea McNish. The timber used is Indian silver greywood.



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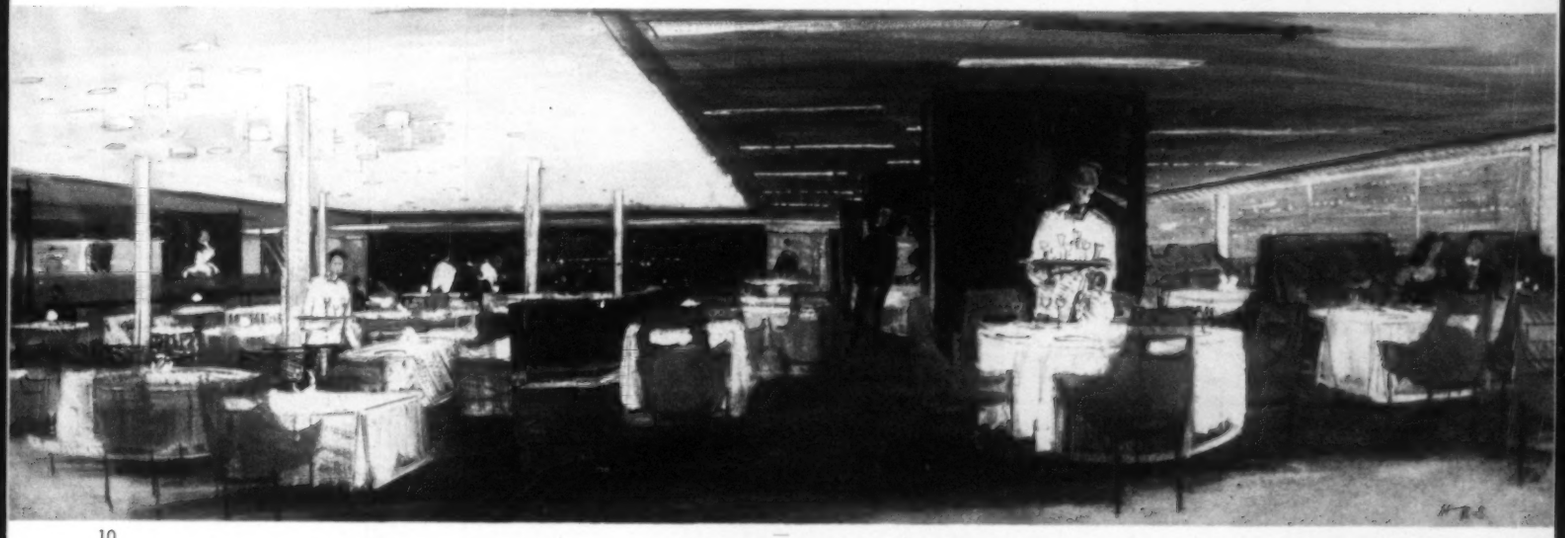
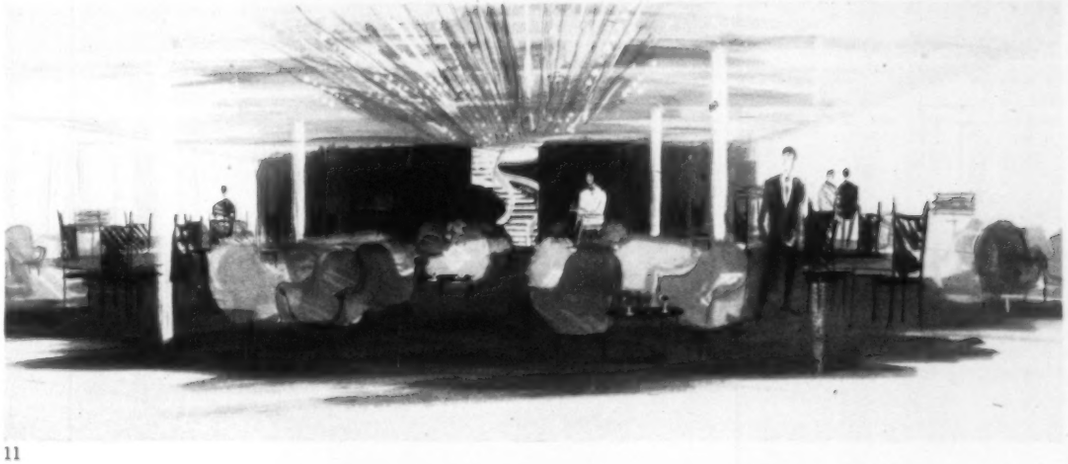
FORWARD: THE P & O LINER 'CANBERRA'

This ship, of 45,000 tons, launched in March, is the first large passenger liner for which the interior architects (Sir Hugh Casson, in association with McInnes, Gardner and Partners) were appointed early enough to be given some say also in the silhouette and other exterior aspects of the design and the general use of interior space. As in the Oriana, the interiors of the Canberra (with which John Wright is also associated) are not only wholly modern in feeling but are designed so that every detail shall possess a consistent handwriting.



10

10, the first-class dining-room. Changes of ceiling and floor level and banquette seating break up the great area of the room, which extends the full 100 ft. width of the ship. Materials are mainly natural wood and leather. 11, the first-class lounge, designed as one space with ancillary areas such as the bar, writing-room, library and staircase separated off by curved walls that stop visually short of the ceiling. These walls are of dark woods. The lounge chairs—a contrast with the traditional club-type chairs—have upholstered plastic shells with brightly coloured removable covers.



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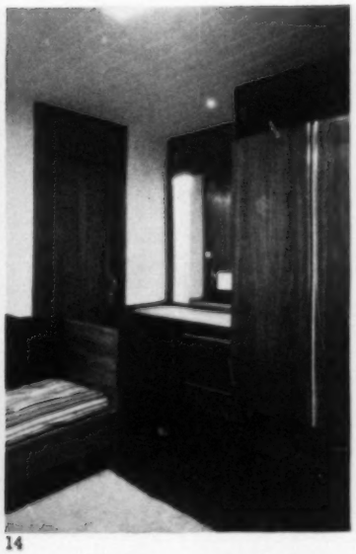


14

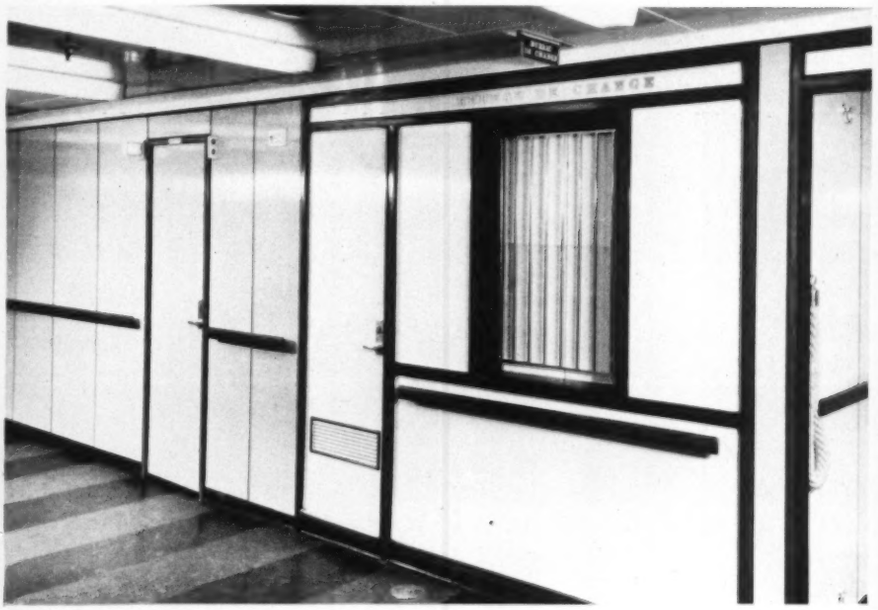
The Canberra's cabins are by Barbara Oakley. On the left are three prototype cabins (associate designer Timothy Rendle), photographed inside the full-size samples that were built up for experimental purposes: 12, showing standard duct panel and perforated acoustic ceiling which also serves as a ventilating grille; 13, showing standard bay with writing/dressing table; 14, showing drawer and wardrobe detailing. These cabins should be contrasted with those in recent Cunarders, facing page.

FORWARD: BRITISH RAILWAYS 'MAID OF KENT'

Though on a far smaller scale than the liners just illustrated, this ship of 4,400 tons, which entered the car-ferry service between Dover and Boulogne in May, 1959, yet marks a significant stage in the slow improvement of British ship design. For the first time in a vessel of this type, the interior was put in the hands of forward-looking architects, Ward and Austin, who have set throughout the ship an appropriately workmanlike but graceful style. The same architects have designed the interior of a second ship for British Railways (Southern Region) which is now under construction.

15, self-service tea-lounge in the Maid of Kent. The furniture is ebonized timber with yellow leather upholstery. 16, below-decks lobby and money-changing office, unobtrusively but gracefully detailed in plastic-faced panelling with a slightly ribbed surface, framed in mahogany.

15



16

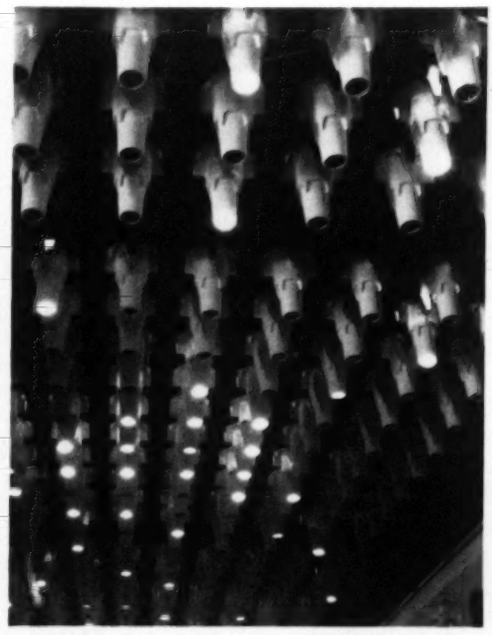
FORWARD: BALLROOMS IN THE 'ORSOVA' AND 'ORONSAY'

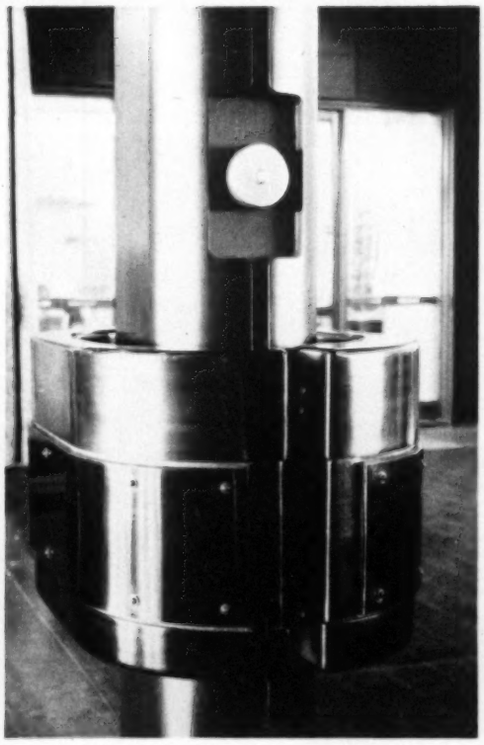
The earlier Orient liners, the Orsova and the Oronsay, have recently had ballrooms added, utilizing a covered deck space, open at the sides, which was used as a dance square. The room is designed for use also as a cinema. The interiors, by George, Trew and Dunn, are another illustration of the contribution the modern architect can make to the improvement of ship design—contrast this completed interior with that of, say, the Carinthia, page 363.

17, ballroom on the Orsova. Seating is planned so that either a small square can be left for dancing or the whole area cleared except for the carpeted sitting-out areas at the sides. The lighting can correspondingly be concentrated on one area or be of general intensity. A problem with this kind of addition to an existing ship is the short time available for the work; in this case the contractor had only eight weeks for the whole operation.

17

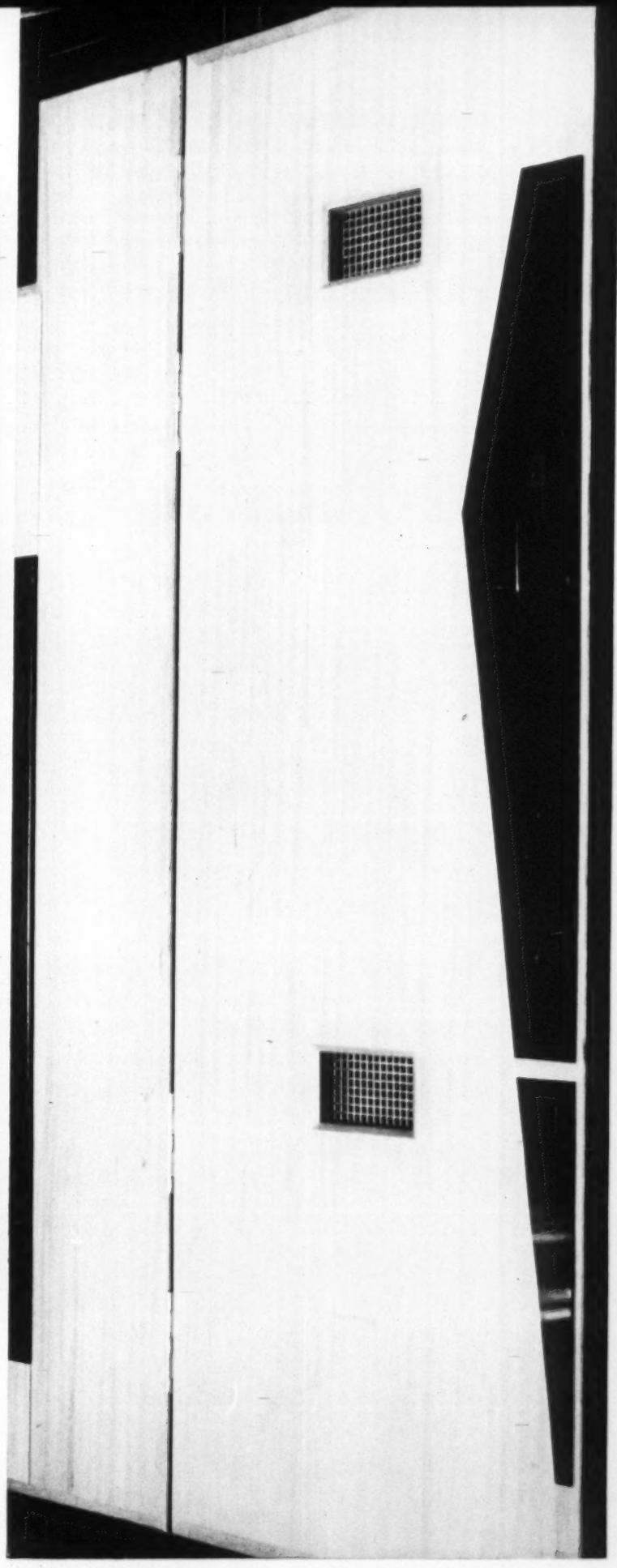
18





19

18, detail of the central light fitting, composed of identical units of moulded fibre-glass, in the Orsova ballroom—see facing page. 19, a column fitted with crash-barrier and bell-bush. The surface of the column is painted black with the inside of the slot red. 20, detail of the polished cedar wall-panelling in the Oronsay ballroom, which includes locker-doors with black plastic finger-plates. 19 and 20 are first-rate examples of the functional tradition used as a basis for ship decoration where it is highly appropriate.



20

the exploring eye

Mr. Ara Güler, the Turkish photographer, while touring in northern Turkey, came across the ruins of an almost forgotten monastery, with buildings, rich in frescoes, dating mostly from the thirteenth, fourteenth and fifteenth centuries. Mr. George Zacos has identified it as the Monastery of Sumela, said to have been founded in the fourth century, and Mr. Güler's photographs, the first ever published of the monastery, are here accompanied by Mr. Zacos's account of its history, of the treasures it contained and of frescoes that still survive in a partly ruined state.

THE FORGOTTEN MONASTERY OF SUMELA

The Monastery of Sumela, also called 'Büyük Meryem Ana Manastiri', is located twelve miles south-east of Trebizond Macka in the valley of Altindere, on the side of Mount Mela, a steep mountain about 1,000 feet above a rushing stream. The narrow terrace where the monastery is built has been hewn out of the rock and the church occupies the innermost recess of the cavern.

The monastery was dedicated to the Panagia and is said to have been founded in the fourth century by Varnavas (Barnabas) and his nephew Sofronios, natives of Athens. Legend has it that they had a vision of the Panagia who instructed them to become monks and found a monastery on Mount Mela and place there the icon of the Panagia, painted by Saint Luke, which was in Athens. The two monks arrived by sea in Trebizond and went to Mount Mela where they built a small sanctuary in the rock. The monastery proper was erected in the fourth century and soon gained fame. In 1340 Alexios III Comnenos of Trebizond selected it for his coronation. In 1366 he endowed and rebuilt the monastery.

Before the war there was a large library containing eighty-four manuscripts, a number of fine icons and other treasures. The most famous of these were the Golden Bulla of Alexios III, written in

1, interior of the church showing the east end of the north wall. The frescoes show apostles and saints in cloudlike frames supported by angels. Below them is the burning bush with the Panagia and Moses. 2, another fragment of the frescoes. At the top are medallions portraying the prophets, at the bottom scenes from the life of Christ: from left to right, the Adoration of the Magi; the Flight into Egypt; the Purification. 3, the eastern external wall of the church showing the remains of frescoes. The barely decipherable subjects include the Creation, the Expulsion of Adam and Eve from the gates of Paradise, the Resurrection, the Incredulity of St. Thomas, the Pentecost, the Transfiguration and the first Council of Nicea.

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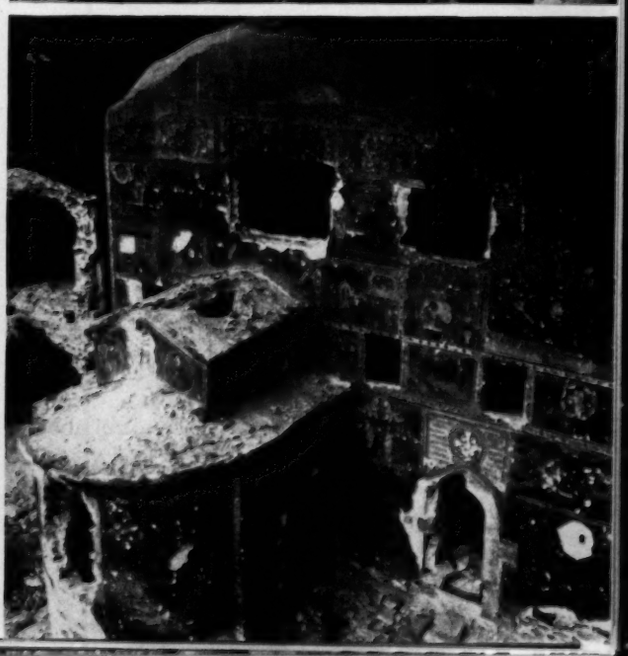

1340, a chased silver casket containing relics of Saint Barnabas, a manuscript of Saint Christophoros, a fragment of the Holy Cross given by Manuel II, a pair of candlesticks presented by Yavuz Sultan Selim I, a firman presented by Fatih Sultan Mehmed II, and the miraculous icon painted by Saint Luke.

At the time of the exchange of populations, the monks of the monastery hid three of these relics in a small chapel of Saint Barbara just over a mile from the monastery: the icon of the Panagia, the fragment of the Holy Cross and the Gospel of Saint Christophoros. In 1930, the Turkish Government permitted a monk of the monastery to come back to Sumela and take away the relics. They were in good condition except for the Gospel, some of whose pages had been destroyed by moisture, and are now in the Byzantine Museum in Athens.

In past centuries the monastery was greatly venerated both by Christians and Moslems, and pilgrims came there from all over Anatolia and the Black Sea coast. The pilgrims who came seeking a cure were placed on the 'Phiale' or water fountain to the west of the main court. This was open at the top to catch a perpetual drip from the rock which overhangs about 100 ft. The 'Phiale' is still in use today and many pilgrims come to it.

The buildings of the monastery are laid out along one side of a narrow rectangle, the back of which is formed by the mountain. The only entrance is at the south end of the rectangle at the top of a long narrow platform reached by a stair on its eastern side which dates from 1860. The steps continue along the east side of the main court, on the west of which is the rock-cut

4

4, the long staircase up the face of the mountain. 5, the monastery seen from across the steep mountain valley.

church. To the north-east are living rooms which constitute the oldest part of the monastery. Among these is a small chapel containing the remains of frescoes of the fourteenth and fifteenth centuries. Most of the frescoes, however, belong to the year 1740, but are, as usual, copies of earlier models. They are derived from such middle period (i.e. 9th to 12th century) frescoes as those of the rock-cut churches of Cappodocia.

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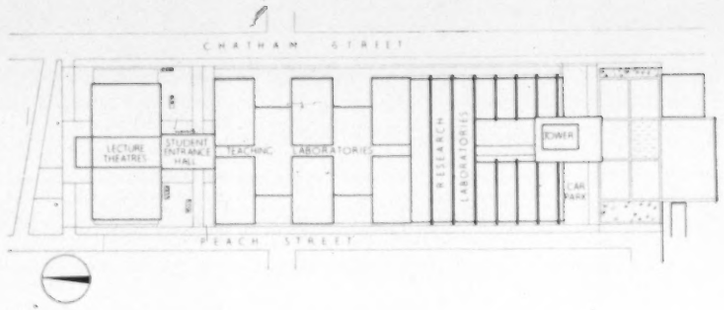
5

current architecture



site plan

1, *aerial view of the physics building from the north-west.*
2, *the east side of the lecture theatre block, with the students' entrance hall on the left.*
3, *the main lecture theatre, which is completely artificially lit and ventilated.*
4 *(opposite page), view from the north-east, with the single-storey research laboratories in the foreground and the nine-storey tower-block behind.*

PHYSICS BUILDING, LIVERPOOL UNIVERSITY

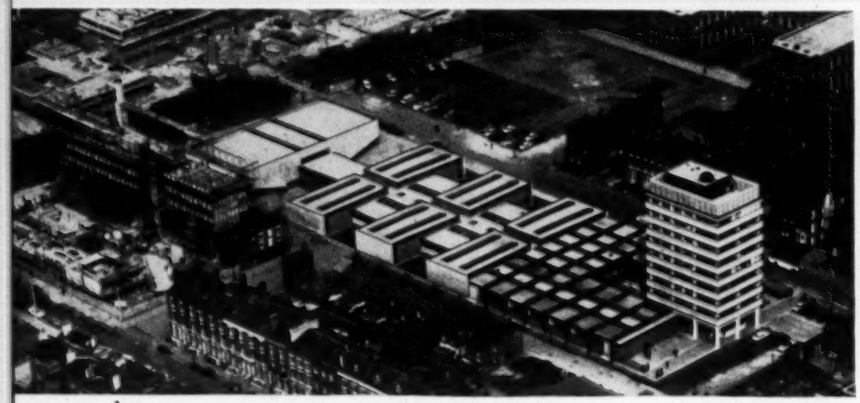
ARCHITECTS: BASIL SPENCE AND PARTNERS

Known as the Chadwick Laboratory, the building consists of a lecture-theatre block, a series of one-storey teaching and research laboratories and a nine-storey tower block containing further laboratories, libraries and administrative and other accommodation. The low building height over most of the site was determined by the nature of the ground.

The lecture-theatres, artificially lit and ventilated, occupy two cantilevered wings, the largest theatre (seating 300) being balanced by the two smaller (seating 100 and 80), with preparatory and store-rooms between them. They have a reinforced concrete frame and pre-stressed panel walls faced with Derbydene stone. The main students' entrance is in a glazed link between the theatres and the remainder of the building.

The six main teaching laboratories, arranged in pairs with small laboratories between, on either side of a central corridor, have load-bearing brick walls faced at the ends with Derbydene stone and steel roofs. Between them and the tower are the single-storey research laboratories with brick walls and with roofs suspended from exposed reinforced concrete frames. The tower block, which is linked to the laboratories on the ground floor only by an open-sided glass-roofed corridor, has its reinforced concrete frame recessed inside a thin curtain wall. Spandrels are of precast concrete faced with blue-grey mosaic.

The building forms part of a district heating scheme supplied by a boiler-house on an adjoining site.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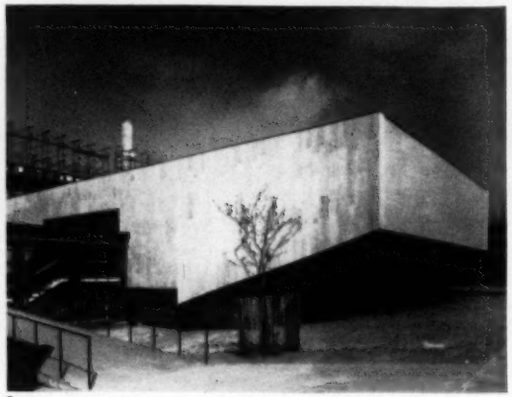
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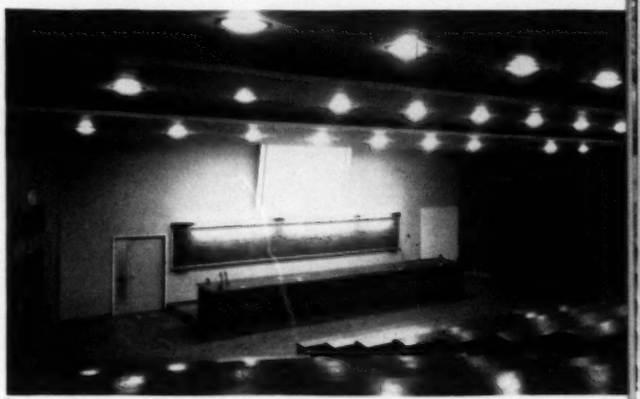
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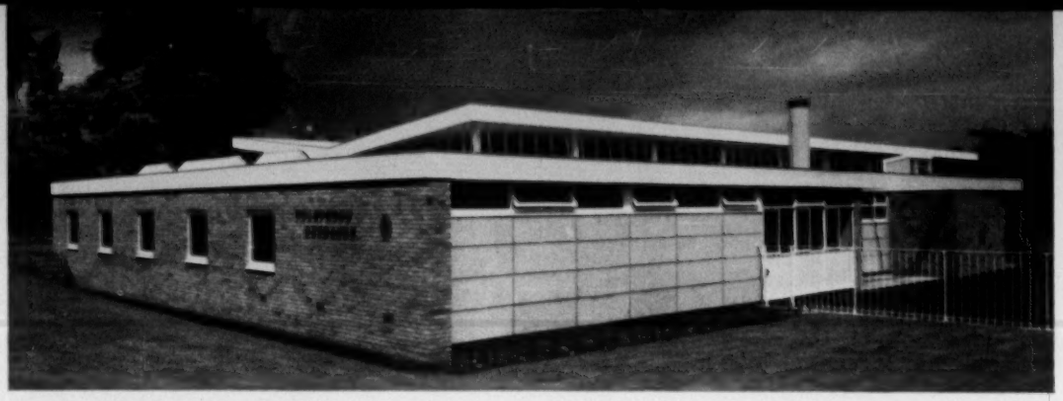
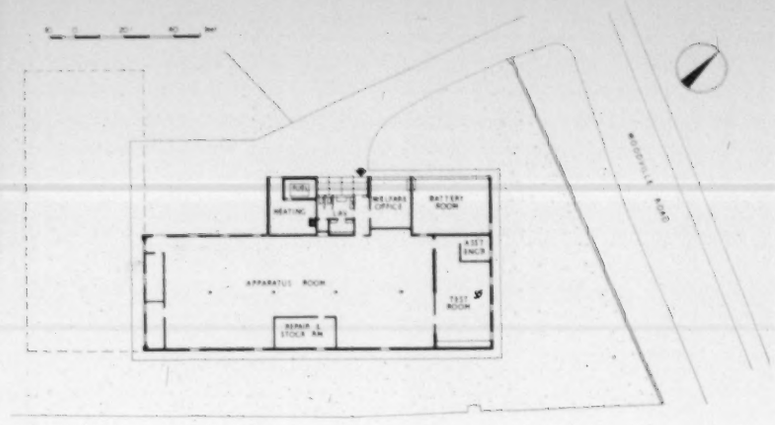


5, the telephone exchange from the north.



ground floor plan

TELEPHONE EXCHANGE, ALTRINCHAM, CHESHIRE

ARCHITECT: MINISTRY OF WORKS

A 10,000-line automatic exchange, which accommodates the equipment in about 60 per cent of the area previously needed and at less than half the cost. It is the work of a joint Post Office/Ministry of Works research and development group set up in 1957 under J. O. Stevens, one of the Ministry's superintending architects. Innovations are made in layout and in the use of new techniques of telecommunications engineering.

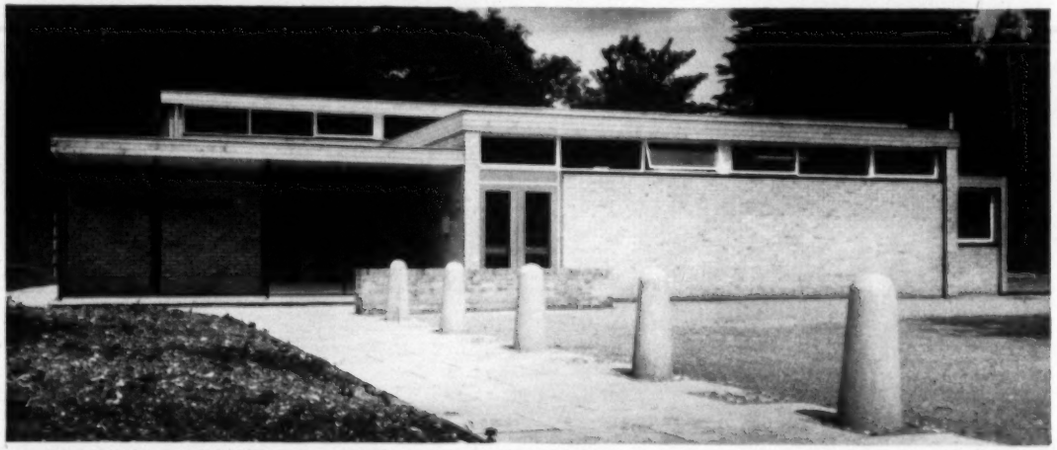
The main equipment area has high-level lighting round all sides of a butterfly roof supported on a central row of columns. Construction is reinforced concrete, the ancillary wing having brick end walls and concrete infill panels.

PARISH HALL, FINCHLEY, LONDON

ARCHITECT: KENNETH WOOD

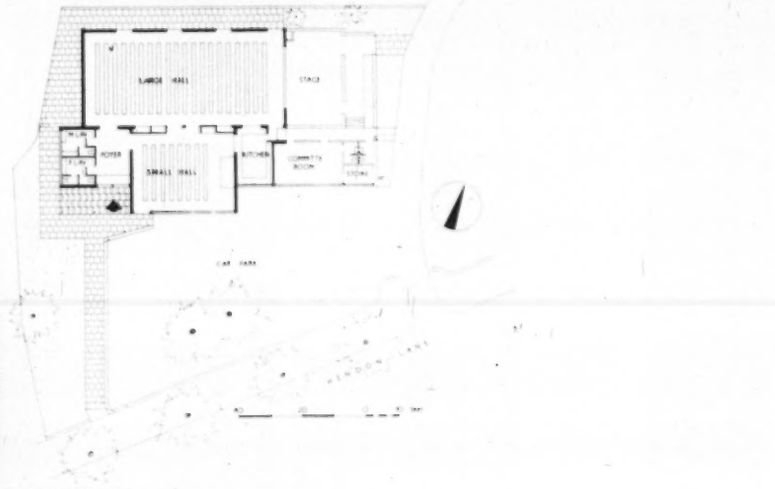
This consists of a main hall seating 300 people and a small hall seating under 100, which share a kitchen and service. The main hall is designed to be suitable also for badminton. A second phase (shown in outline only on the plan) will provide a stage to the main hall, with back-stage access and storage, and committee rooms designed to be used also as dressing-rooms. Although the small hall is planned to serve on occasion as an ante-room to the large, it is partly insulated from it by full-height storage fitments which also contain fire-fighting equipment.

The structural frame consists of laminated hardwood columns with stressed skin box-beams supporting a timber roof covered with aluminium. Walls are cavity brickwork on load-bearing concrete blocks. Fascias are boarded in cedar.



6, entrance to the parish hall from the south. 7, the large hall.

6



ground floor plan

7

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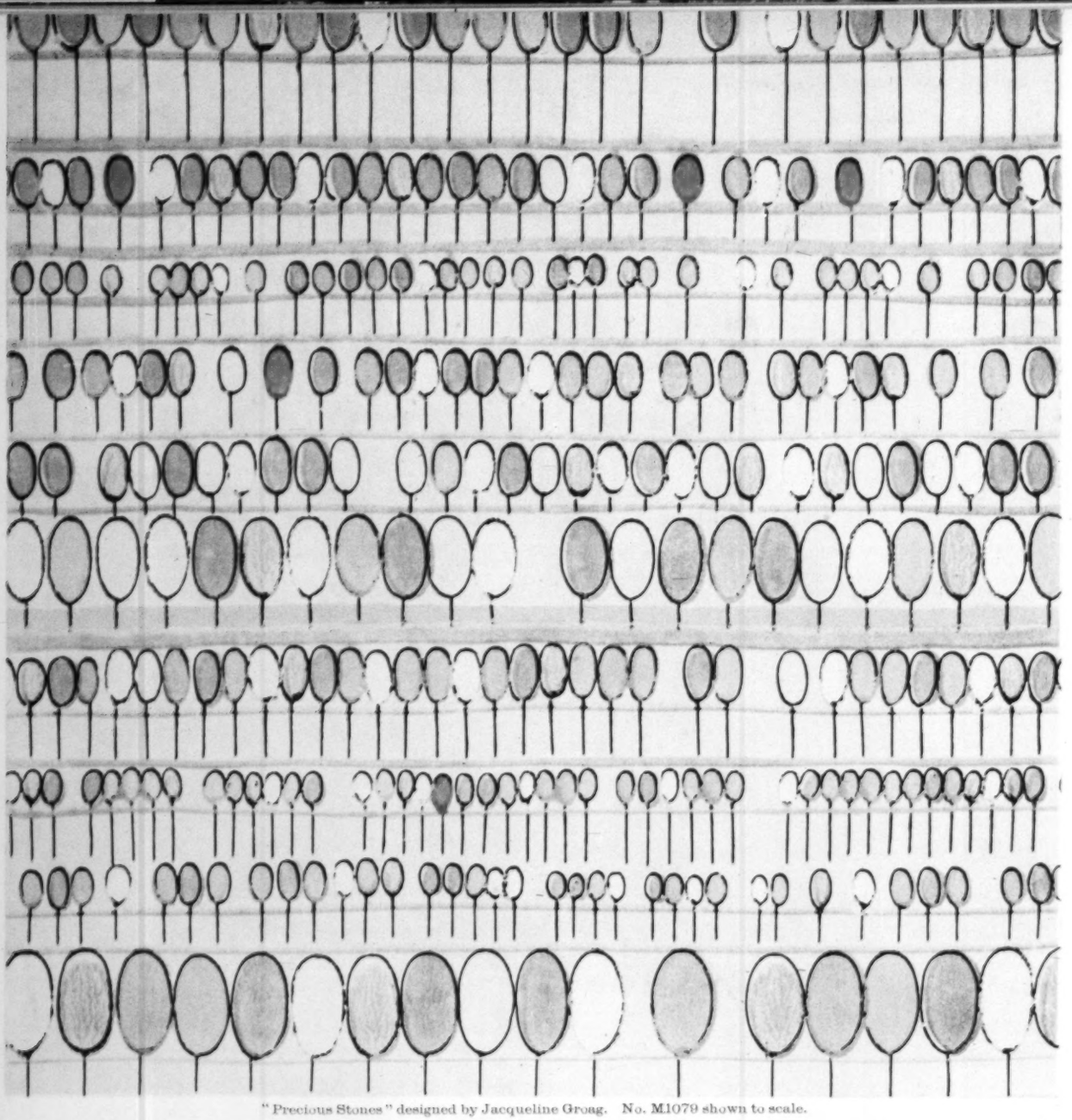

"Precious Stones" designed by Jacqueline Groag. No. M1079 shown to scale.

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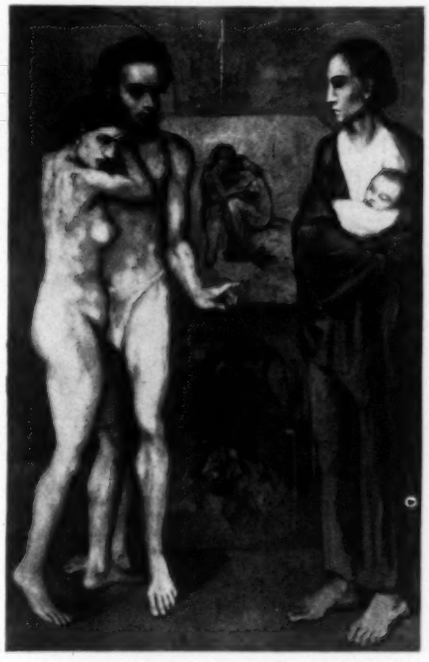
EXHIBITIONS

AFTERTHOUGHTS ON THE PICASSO EXHIBITION

The critics who went to the press view of the Picasso exhibition at the Tate Gallery and had to write their notices the same day, or before the week-end, were still intoxicated, and their enthusiasm was more faithful to what Lawrence Gowing called the infectious life of the paintings than the speculations of those who had time to wonder whether Matisse was a greater artist or Braque a better cubist.

At the back of Roland Penrose's biography of Picasso, published in 1958, there is a forecast of the choice of paintings which he made for the Art Council. Some of the works in those twenty-four pages of miniature illustrations were not available—the portrait of Gertrude Stein, for instance, and the first of his paintings of massive nudes, done in 1906—and others were not in the right medium, but as far as possible, Penrose followed that already thoroughly-planned survey. Every phase of Picasso's work as a painter was represented, and at the same time it expressed Penrose's particular kind of 'engagement' to Picasso's art. By speeding up the changes that occurred in the first forty years of his art and by devoting relatively more space to the work done after 1936, when the innovations begin to be eccentrically violent and the act of painting a kind of incontinence, he turned the exhibition into a vindication of his belief that Picasso is an artist in a state of perpetual rejuvenation. In view of the fact that the effect produced was one of superhuman vitality, it would seem to be a valid enough thesis; but by the time one was halfway through the exhibition one began to lose the sense of being in the presence of great paintings and to feel instead that one was witnessing an Amazing Natural Phenomenon, a sort of geyser, constantly throwing up jets of boiling paint.

The exhibition renewed, of course, the old and never very rewarding discussion of the relative importance of the parts played by Braque and Picasso in the evolution of Analytical Cubism, but it's difficult not to take sides, although one's reasons for doing so are probably a matter of temperament. The disorderly appearance of the room at the Tate devoted to Picasso's cubism was strikingly in contrast to those two long rows of grey, sombre, faceless paintings which comprised the cubist section of Braque's show. Braque was more consistent and aesthetic, Picasso more inventive and lively. Another important difference is that Picasso took a much more varied and complex experience of pictorial problems into the Cubist adventure than Braque



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did. He had, for instance, made heroic efforts to resolve the problem of organizing figures in depth, without ever quite succeeding. There is a distinct uneasiness about the disposition of the figures even in the splendid 'Family of Saltimbanques' which inspired one of Rilke's Duino elegies. The woman in the foreground seems to have been pushed over to the extreme right in order to intercept the glances of two of the other figures—incidentally turning the composition into one of the most poetic 'problem' pictures in the world. In most of the early compositions, he instinctively arranged the figures against closed backgrounds, and stood them in more or less the same plane, as in the famous 'La Vie' of 1903, 1; *single* figures simply emerged from a tonal paint texture.

He was able to turn his back on the problems of deep space with a good conscience when the painters of his generation began to investigate and conceptualize Cézanne's attempts to bring all the elements of a landscape close to the picture surface. The grandeur of Cézanne's obsession gave the notion of shallow space the status of an ethical imperative. The shallower the space, the more ethical the painter, and the most ethical of all are the young men of today who claim that their large rectangles of flat colour send space sideways.

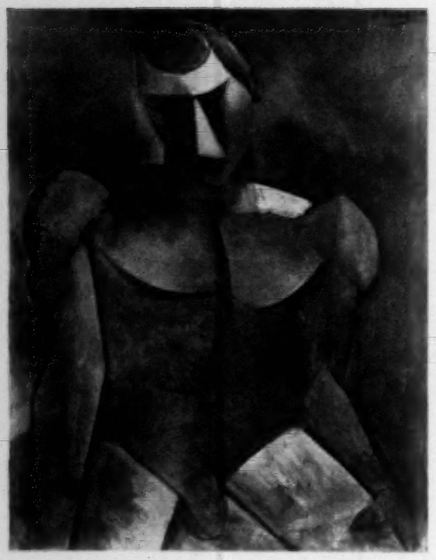
Picasso brought his figures on to a narrow ledge just behind the picture surface, but under the lash of a kind of aesthetic sanctimoniousness the ledge had to go on getting narrower, and finally this squeezing out of space came into conflict with his predilection for large, simple volumes.

In the study of two massively contoured nudes which he painted before embarking on the 'Demoiselles d'Avignon,' Picasso aligned himself with Berenson's Florentines: these nudes are powerful carriers of those 'tactile values' which Berenson declared to be 'life-enhancing,' and although I don't know why they should be, I derive so much pleasure from the illusion of physical tangibility that I agree with him. There's no doubt at all that Picasso has, or had, a very strong compulsion to emphasize volume. Many of his greatest works arise from, and dramatize the conflict between, volume and shallow space, and his most daring flights of inventiveness have been provoked by the need to find potent substitutes for volume.

In the 'Demoiselles,' 2, he has flattened all the girls, but draws upon negro carving for an alternative way of making the two most notorious figures in twentieth-century art 'stand out,' for they are given tribal marks or scratches in various places where a modelling shadow would isolate volumes. But he became so interested in

2

the large, simplified planes of negro carving that he let space look after itself in the works that followed. The 'Male Nude' of 1908, 3, with its emphatic angular planes and feeling for solidity, is a superb example of the work of this 'negro' period. But its sharp planes led into 'facet' cubism, where he con-



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sidered, more systematically than in the 'Demoiselles,' ways and means of finding an effective substitute for volume in figures flattened to fit into shallow space.

Reyner Banham describes a notable example of Picasso's use of facets in an article on the exhibition called 'Portrait of the Artist as a Retired Spaceman.'* After pointing out that Cézanne half solved the problem of rendering his sense of the reality of the Montagne Saint-Victoire as a flat pattern on a picture

4

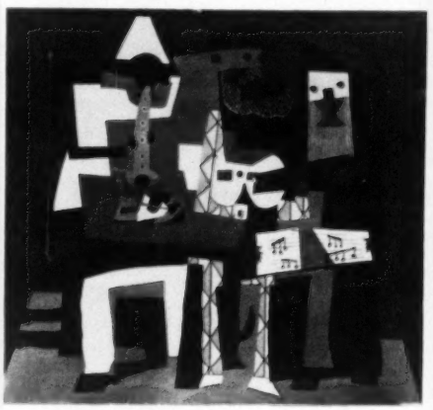
surface 'by dropping skies as solid as plastered walls on top of mountains whose verticality had been exaggerated by suppressing their foothills,' but that he could go no further because his 'fetish-mountain' was too real to him to be subjected to any more manipulation. Banham goes on to suggest that Picasso had no such regard for the reality of his subjects, and cites his treatment of 'Girl with a Mandoline,' 4. 'Here,' he says, 'desperate surgery has been done to breast and face. (This really is the "Trunk murderer aesthetic" at its most literal) and the Mandoline has had its neck broken a couple or three times to keep it within bounds. Along the way, Picasso in one small passage, beats Cézanne and the Quattrocento Florentines at their own game and, in the upper right arm, makes a statement about volume in space that is a feat of overpowering virtuosity. You could put your hand round this arm, so decisive is its form and so certain the amount of space behind it.'

I apologize for quoting at such length, but Banham's description is brilliantly accurate, and even his reference to the trunk murders is appropriate enough to the view that Picasso did not feel much responsibility towards the real presence of the subject. Yet Picasso has so strong an attachment to the female of the species that she can be called his 'fetish-mountain.' She has always prevented him from becoming non-figurative, and the influence she exerts over him may well account for his desire to confuse the sign with the thing signified. It is true that he is the most radical manipulator of her appearance, but his manipulations are inextricably involved in his self-imposed task of glorifying the desirability of her various attributes.

The 'Girl with a Mandoline' is a transition picture, situated midway between the 'facet' and the 'hermetic' phases of Analytical Cubism. The faceting of the portraits of Fernande which preceded it is one of his most potent substitutes for the fully modelled head. Instead of giving one the sense of being able to go round her, he cuts steps in her likeness and presents her as a scaleable rock face. This attribute of climbability is even more evident in 'Girl with a Mandoline.' Like the 'Demoiselles' it dramatizes a conflict between mutually exclusive pictorial devices, for in both works one such device is so to speak caught in the act of taking over from another. In the 'Demoiselles' one feels that the three figures on the left will in due course be infected with the rash of stripes on the figures opposite. In 'Girl with a Mandoline' one sees that the breast, still soft and vulnerable, is nevertheless already involved in the process of hardening and angularizing that has turned the shoulder into a shelf on which the mountaineering eye can rest and, if need be, pitch its tent. The figure is becoming part of a wall, and only the right arm, as Reyner Banham points out, remains a volume totally isolated in space. Space has solidified and become a precipitous rock-face furnished with handholds, and the figure, on the way to being completely identified with it, spreads out to compensate for losses of volume.

Picasso persistently makes a virtue of such anachronisms, and the process of transformation at work in 'Girl with a Mandoline' leads in the long run to the heads like 'Crying Woman,' painted twenty-seven years later, in which a profile has been widened to contain all the features of the face, and bring the back to the front.

The pictures in which the thirst for volume cuts across the shallow space-concept are among his most magical works, even when they verge on the farcical. For instance, the painting in the exhibition which is sometimes known as 'The Woman with the Golden Breasts' is a fantastic, collage-like work which crazily combines flat angular shapes for the head and parts of the body with dangling breasts like segments of whipping



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tops and trompe l'oeil effects of rumpled underclothes; and the whole contraption sits in a realistic-looking armchair; but Roland Penrose rightly describes the result as 'a new and disquieting relationship between abstraction and sensuality.'

It was noticeable that some examples of the flat-pattern figures which began to appear a couple of years later, in 1915, and were quite free from anachronisms, produced the dullest patch in the exhibition. It was not until Picasso closed off this aspect of his work with the 'Three Musicians,' 5, that the magic reappeared. In this picture, the elaborate montages of flat shapes like coloured paper cut-outs cast long black shadows, and suddenly and delightfully make a joke of flat space.

During the period from 1917 to 1924, Picasso made many majestic studies of the rotundities of women that took no account whatsoever of contemporary notions about the rights and wrongs of pictorial space. He gave free rein to his delight in the illusion of volume, and created images of ten foot tall goddesses which take to themselves Adrian Stokes's fine description of Ingres' conception of form: '. . . a great draughtsman's conception,

Art News and Review, August 27, 1960.

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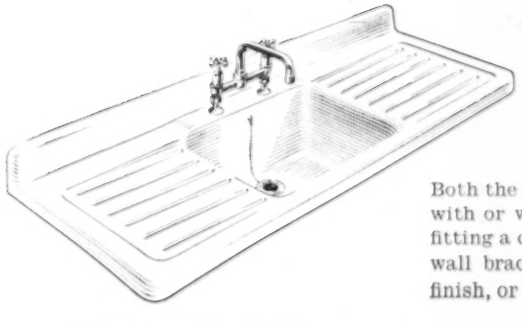

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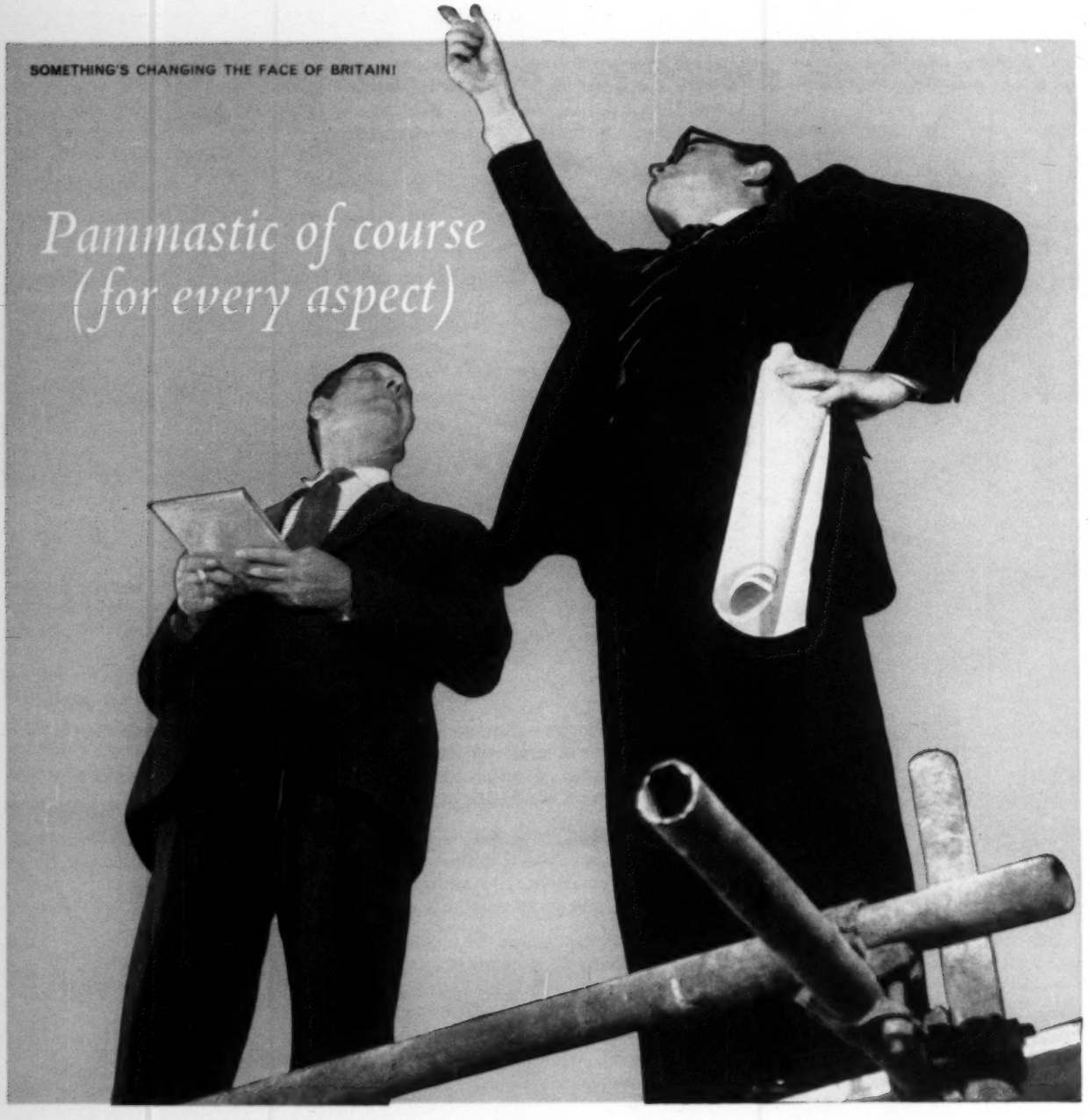

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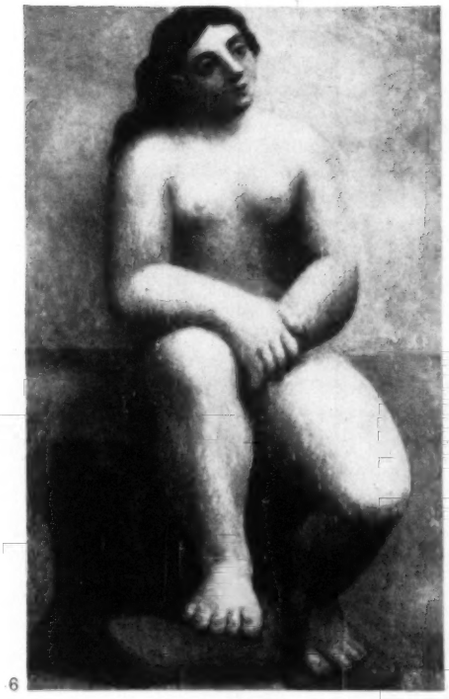

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something far clearer than life, an idol expelled from the mind. . . .' The description fits 'Seated Nude on a Rock,' 6, like a glove, although the canvas only measures $5\frac{7}{8}$ in. by $3\frac{7}{8}$ in. She is a giantess for the pocket. The 'Still Life on a Chest

7

of Drawers,' 7, which belongs to the same period and discloses a similarly explicit modelling, was one of the most beautiful still lifes in the show. The forms give the impression of having been handled and kneaded by the painter, and have the immensely satisfying look of being the property of his warm and solid goddesses.

It's probably true that I myself have something of an obsession with paintings devoted to the illusion of expansive volumes, for I am delighted by Picasso's most outrageous and comical inflations of the female body, as in 'Bather playing with a Ball,' 8, where the girl takes on the appearance of those large rubber animals which holiday-makers play with in the sea.

But I am sure I am far from being alone in thinking that one of the wonders of the exhibition was a recent painting

8

which was a kind of grand summation of those aspects of Picasso's art that I have been extolling. It is a picture of two

9

nudes painted in 1956, 9, and islanded between the series of 'Studios,' in which he paid homage to Matisse, and the fifty-eight canvases connected with his curious attempt to take over Velasquez' 'Las Meninas.' These two nudes have been splayed out to make room for the buttocks fetched round from the back. At the same time, they have the sharp planes of the Negro period, and are as emphatically modelled as the neo-classical goddesses. They have been placed in a space box just large enough to suggest that one can squeeze past and look at them from the back wall, but since everything has been brought round to the front there would be nothing to see if one did so. Picasso is one of the greatest illusionist painters of all time. I hope he is not the last of them.

Robert Melville

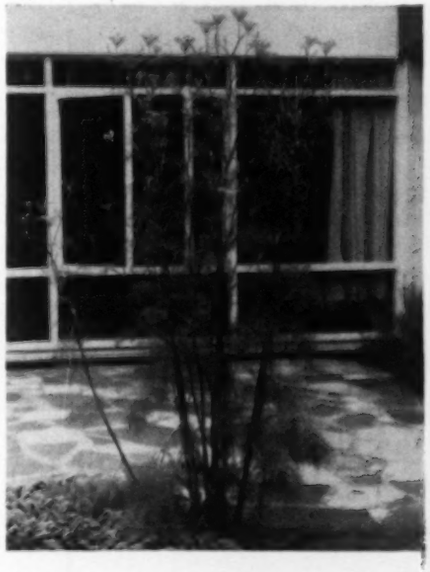
PLANTS

FEATHERY PLANTS

There are many more herbaceous plants with interesting leaf form and with glossy, spiky or velvet textures than there are plants with a light feathery quality, a pluminess which makes such a valuable contrast to heavier foliage, solid paving or structure. Some of these plants have been too often confined to kitchen gardens in the past. They need recapturing for modern planting. For the third article in this series describing plants that are useful to the architect in embellishing his buildings, I have therefore chosen fennel which, even the common kind, when properly established makes a group of filmy fronds that looks marvellously insubstantial against the light, or when lit up at night on the margin of a terrace.

Fennels require good garden soil; the fresh fronds appear very early (February, sometimes January), and for best foliage persistence the flower stalks which bear yellow umbelliferous flowers in July and August should be cut out, as soon as they appear. The plant in flower, nevertheless, has a fine effect. Fennel is extremely hardy, standing up to the severest cold. The varieties in cultivation besides the common herb, 1, (shown here in the first year of planting) are *Ferula gigantea* (6-8 ft. high, 4 ft. spread when established) from Asia Minor, now rare (Maurice Prichard & Sons can supply), and *Foeniculum vulgare* '*Black form*,' which has rust dark fronds, very metallic.

Asparagus is another kitchen garden plant which has an elegant feathery appearance and attractive green bullet-like seeds, attaining to 2-3 ft. Normally the foliage is only seen when an asparagus bed has run to seed. But in some French



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gardens it is used, two or three roots at a time, among garden plants. Asparagus could be used in conjunction with plants like hostas and lilies to whose family it belongs. It requires the same light well-drained soil and is encouraged by organic manuring in autumn. But it will grow in almost all soils except chalk. Dig in some peat, rotted leaf mould and sand when planting these rhizomes. Feed with bone-meal and potash. Varieties: 'Martha Washington,' 'Argenteuil,' 'Connover's Colossal.'

A Chinese plant which produces plumy panicles of flowers and at the same time has a beautifully cut and rare leaf form is *Bocconia cordata*, 2, the Plume Poppy, now called *Macleaya*. This almost comes into my category of weeds as it is a tremendous root runner, and needs space. Confined in paving or allowed to flourish in the neighbourhood of dark-leaved glossy plants like Acanthus or *Crambe cordifolia* one can appreciate more the strangeness of its grey-green fine-cut leaves (pale copper on the underside), which look as if someone has been at them with a pastry cutter. Or one could use the plant as a summer screen of 5-foot foliage along a narrow border path. *Macleaya* (Bocconia) Kelway's Coral plume has coral pink flowers.

A sowing of annual opium poppies (*Papaver somniferum*) close to these plants produces a charming effect, automatically repeated by self-seeding. The interest of such a group would be heightened by planting hardy perennial Oriental poppies whose pale green furry foliage, sharply cut, would set off the greys of the taller plants and produce an added brilliance in early summer. They have flaming papery flowers with purple-black stamen-studded centres.

The idea of associating plants of a single family was often put forward by Gertrude Jekyll, and is commonsense from the point of view of cultivation. The interesting possibilities can best be studied in the Order Garden at Kew, now made hideous by a monstrous pergola. There the least botanical-minded person can inspect specie plants of a single family growing in the same bed.

The feathery plant par excellence is the tamarisk, which I must mention although it is a shrub. It has no equal. It is of maximum value in sandy seaside gardens where little besides grasses can be made to grow. In exposed positions it provides, planted in groups, an effective windbreak. The Caucasian tamarisk *T. tetranda* has pinkish white flower plumes. There is a group at Kew, 3. In a suitably exposed position it flourishes regardless of the distance from the sea. Plant fairly close, at 3-foot centres.

Artemesias and Santolinas have a feathery quality, but I shall discuss them with a group of grey and silver leaved plants. The pampas grass 'waving the burial plumes of summer' deserves a mention. It needs a much richer soil and preparation than it normally gets, a mild climate, and protection from the wind.

Patience Gray

HATS OFF

WATNEY'S LETTERING

The columns of the REVIEW *inevitably contain many grumbles*—grumbles about mistaken policies, about unimaginative, rule-of-thumb applications of acceptable policies and about sheer bad design; which is right and proper in a magazine with a critical attitude to the visual arts. But credit must also be given where it is due. Sometimes there occurs a refreshing exception to practices that normally have to be grumbled about, and under the self-explanatory heading 'Hats Off,' the REVIEW will regularly draw attention to them.

Lettering on buildings has been much criticized in the REVIEW and elsewhere, and the first entry under the 'Hats Off' heading can appropriately be the one recent enterprise that has encouraged

1

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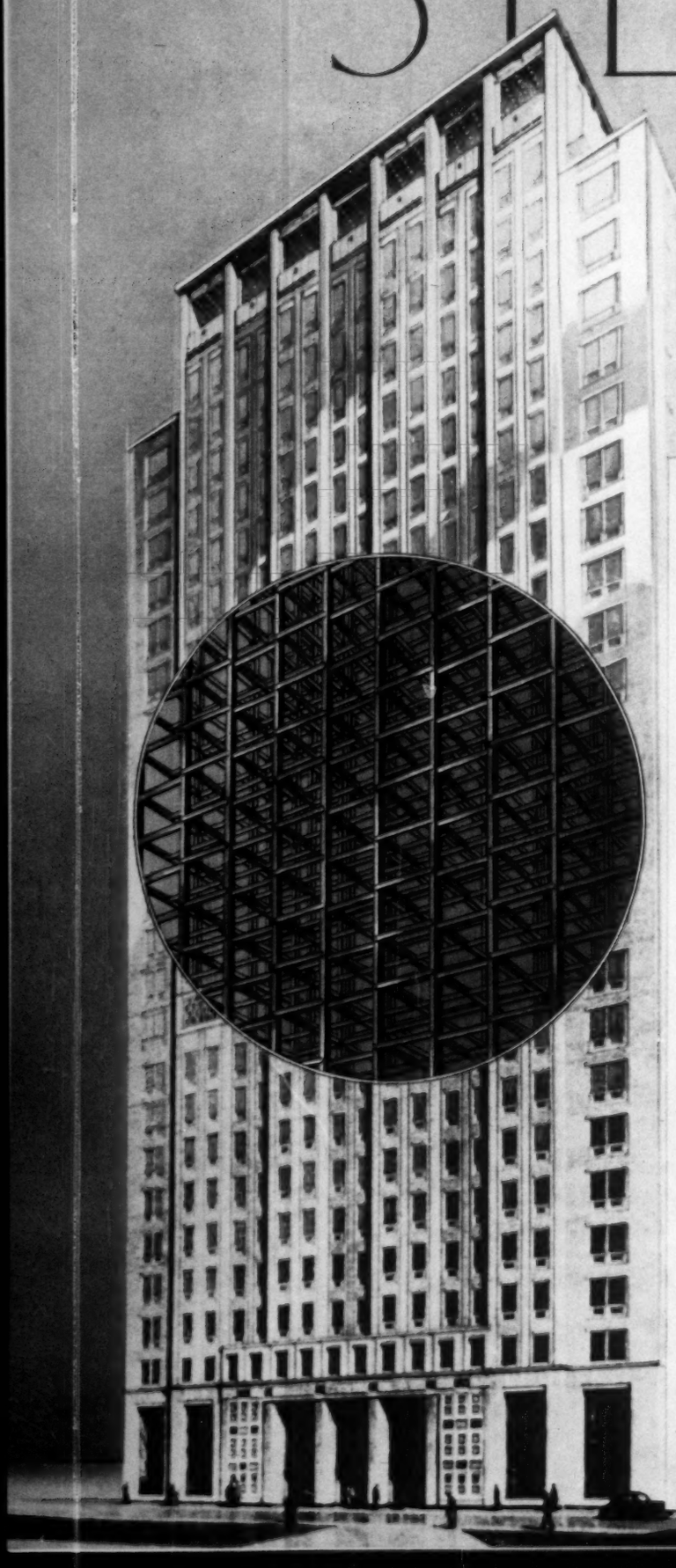

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This, the Tower Block of the new 'Shell Centre', has 26 storeys (excluding basement) and is 351 ft. high, covering an area 174 ft. by 78 ft. It is at present the highest office building in this country.

Many unusual structural requirements arose; some due to wind-bracing problems, others from the high floor loadings and the provision of shafts for fourteen lifts and for chimney flues.

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The structure up to the second floor is of 3-bay portal-frame construction and carries the 24-floor steelwork above it on specially designed steel bearings.

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Architects:
Messrs. Easton and Robertson, Cusdin Preston and Smith.

Consulting Civil and Structural Engineers:
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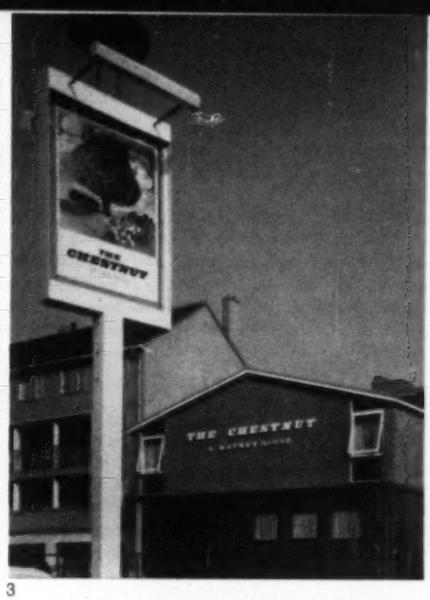

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people who mind about good lettering: that undertaken by Watney, Mann Ltd., the brewers. In 1956 Design Research Unit were commissioned by these brewers to create a 'house identification scheme' which should, in the words of the brief given to the designers 'effect a breakaway from the rather frigid atmosphere of public-house architecture, furnishings and accessories, developed in the years between the wars, and to re-establish the atmosphere of comfort and conviviality epitomized in Dr. Johnson's testimonial that "there is nothing which has yet been contrived by man by which so much happiness is produced as by a good tavern or inn."'

Obviously this precept could be variously—and, indeed, disastrously—interpreted. But DRU (in the person of Milner Gray as consultant designer, assisted by Ronald Ingles and John Bruckland) have used it as an opportunity to create a house-style that combines freshness and sparkle with a proper respect for what is still alive in the pub tradition. As a result Watney pubs all over the country have become a pleasure to come upon, and a refreshing contrast to the usual brewers' alternative of signwriter's commercial or period imitation.

The house-style they have prescribed for Watney's affects architecture, colour-schemes, delivery-vehicles, interior and exterior decoration, bottle-labels, stationery, advertising, bar-equipment and the famous Watney trade mark—the red barrel—which DRU have redesigned. But here we are concerned with the lettering that they have standardized for use in all Watney pubs—which is immediately recognizable, possesses style without affectation and is adaptable to the variety of situations and architectural settings it has to serve, as the accompanying illustrations show.

It is basically a Clarendon Bold expanded letter. It is applied to fascias, signboards, etc. on a gloss black ground in red, white and gold, and its use, as recommended in DRU's report to the brewers, is accompanied by intelligent but flexible recommendations as to the colours that should be chosen for wall-surfaces, door and window frames and the like.

The illustrations show: 1, a London pub (the Cock and Lion, Wigmore Street), relettered and redecorated in conformity with the house-identification manual provided by DRU; 2, a small-scale town pub (the Druid's Head, Brighton) similarly dealt with, but with subtle and appropriate differences of treatment; 3, the same style of lettering on a new suburban pub (the Chestnut, Upper Tulse Hill). J.M.R.

COUNTER-ATTACK

WEST CUMBERLAND 1

'1595: West Cumberland.' The road-sign in Carlisle looks like a piece of Ministry of Transport steamrolling—a lot of towns lumped into the bureaucratic tidiness of a geographical area. But for once the Ministry of Transport is right. West Cumberland, as anyone must realize as soon as he gets there (and he will certainly know when he does), is essentially a *place*, with its own intense local life and customs derived from the nature of the country and built into its towns and villages.

No one goes to *visit* West Cumberland (one can tell that from the hotels). And yet—while it remains—it is, socially and architecturally, one of the most fascinating parts of England. One must make the qualification, 'while it remains,' for the future seems all in doubt, economic conditions fluctuate, and there is far too little evidence that the extraordinarily interesting architectural heritage is valued for what it is.

West Cumberland was, so they will tell you, the home of the Industrial Revolution. At any rate it began to develop as an industrial region nearly 300 years ago, when the coalfield started to be worked on a large scale: Whitehaven, built by the Lowther family as a coal port, was already a considerable town by the end of the seventeenth century. (It is still, for all its industry, predominantly a seventeenth and eighteenth century town—and a very notable one.) In the eighteenth century new towns and villages appeared to the north, and later iron-mining was developed to the south and east. Today West Cumberland is a substantial industrial area, while remaining an astonishingly individual one. There are minor conurbations round Workington, and in the triangle formed by Whitehaven, Frizington and Egremont, but the towns, and even the villages between, retain very marked identities. And yet all is not well: the coalfield is being worked out and now only one pit (at Whitehaven) is working economically. The whole area north of Workington through Maryport to Aspatria is depressed and badly needs new industry. Farther south things are quite different. Workington is now a big engineering centre; the iron-mining towns of Cleator Moor and Egremont are flourishing, and so, after being wretchedly hit in the slump, is Whitehaven. Prosperity, from being all in the north, is now all in the south, and so far there has been no success in attempts to improve the balance.

Poverty and riches are the two worst things that can happen to old towns: in West Cumberland they are both happening at once; and results can be compared, though not, alas, always contrasted. The absence of an architectural conscience is as marked in Whitehaven as in Maryport, and evidence of depressed standards prevails throughout. The two photographs of Parton, a mining village now submerged in outer Whitehaven, show one side of the trouble. No one knows what to do with Parton—so no one does anything. A few remaining bits (already obviously doomed) suggest that at one time it must have had much quality, 1. The sturdy vernacular of West Cumbrian Georgian, with its bold treatment of detail,

1

2

its general sense of a tough individuality, is all there—now in apparently irretrievable decay: turn any corner and one comes upon a depression which looks like—and is—a real survival of the 30's, 2.

On a larger scale, and more seriously—for there is more to lose—Maryport tells the same story. It looks as if no one knows what to do with Maryport either. Recently an unpredictable return of the Solway shrimp beds made Maryport look up a bit; but the town can hardly live on shrimps, and in any case no one knows when they may disappear again. For those who can see the quality under the drabness and decay, Maryport is still an extremely striking and handsome town; but all the signs are that it can hardly last much longer. It is built on a very unusual site and—in the circumstances—to an unusual plan. A severe grid of streets was laid out in the eighteenth century on a steeply sloping ridge above a narrow flat strip by the harbour. There are thus plenty of exciting contrasts of levels, sometimes contrived by steep streets running down to the harbour, 3, sometimes by zig-zagging stairs, 4. In the upper part

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of the town, the grid comes formally to a halt at the top of the hill in a large square, 5, which has apparently always been residential, never a market place. Here the houses, some of them, look as if they are in fair condition; down below, more and more are becoming unoccupied and almost all are condemned. But if Maryport is to regain a proper life, this part of the town must be brought alive again, too. Given a little encouragement Maryport could be one of the most exciting places to plan for—surely town designers must pray for such a site. If and when the fortunes of the town look up, it will need all the genius we can find—and probably more—to grasp the opportunities offered.

At the moment, of course, no opportunities *are* offered: Maryport is decaying because there is not in the present general situation a reason why it should do anything else. The general situation then needs urgently to be changed, which means a good deal more active Government interest in keeping such towns industrially vigorous. With the loss of their natural resources they cannot do it alone: and if Maryport has given England its coal, England owes a return. Maryport, though only five miles from Workington, has now become rather isolated—a point which could work to its advantage if only an organized return to prosperity could be managed: the dangers of a *dis*organized return are being only too well illustrated further to the south. Maryport has all the elements needed for a first-class town: one can see the harbour, with the cliffs above, as an excellent setting for really good industrial buildings and warehouses, and of the domestic architecture quite enough remains—one would hope—to compel respect for the local dignity that created it.

The contrast with Workington, five miles to the south, is extreme. Workington is now, after Carlisle, the largest town in Cumberland, a huge, ungainly sprawl with no recognizable centre—only a meeting-place of several ill-defined open spaces lined with vaguely contemporary buildings. There is a large church at each end of the town, one medieval, one a handsome early Commissioners' church, with a magnificent baldacchino by Comper. Near this are the remains of an old centre, with the particularly delightful Portland Square, 6, spoiled by the crude obelisk and by being used as a car-park. Looking on to the dingy estuary of the Derwent is another set of nice houses on Brow Top with a poor man's version next door in Derwent Street. All these should certainly be preserved, for Workington has nothing else, not even a decent sea-front.

Elsewhere in the town there is plenty of busy activity and more or less nothing else: wholesale reorganization is obviously needed, both to cheer up and eventually replace the endless rows of little nineteenth century cul-de-sac streets, 7, that look and feel quite desolate (why not a tree at the end of each?) and to try and give some coherence to the dreary mess that passes for the middle of the town, 8. This task the County Planning Department is struggling with now, though it is hard to see what can be done while so many new (and characterless) buildings are going up with so little attempt to arrange them in any sort of seemly or meaningful order. Only a complete redevelopment of the whole centre could make the transformation needed: no doubt this will demand a fine tact and courage to deal with vested interests.

To the south again, east and south-east of Whitehaven, are the iron mines. The area is littered with little patches of houses (once no doubt attached to mines), which, because the architecture is placid and decent, are quite pleasant. Still, there is much scavenging to be done of these scrabbles by the larger settlements to give the region more precision—and more air. In fact a major need in West Cumberland, especially in the south, is for a concentration of both population and industry in the larger centres. Only in this way will they—and the region as a whole—get enough dignity and breathing space. Unfortunately the present trend seems to be in the opposite direction: among the sporadic housing which litters the countryside, new factories are being built—notably around Distington, a one-time village halfway between Workington and Whitehaven which now threatens to link the two.

This policy of covering even what ground is left virgin is highly reactionary, particularly when one considers the needs of Maryport and the places further north. It should certainly be halted, and an attempt made to restrict outward growth in the south to those towns which have or might achieve recognizable shape and unity. When the houses in smaller settlements like Rowrah, Arlecdon and Cleator become outworn, as they must, there should be no attempt to replace them on the spot: rather they should go to give coherence to the larger places, and their own sites be reclaimed for agriculture. In particular, new factories should in no case be established far outside the existing built-up areas.

These are concentrated (so far as anything is in West Cumberland) round Egremont, Cleator Moor and Frizington, a group of towns lying along the valley of the river Eden facing Dent Fell, the last outcrop of the Ennerdale mountains. Of these only Egremont, the most southerly, has real distinction: its feel is almost of a foreign element, a market town strayed by chance into an industrial environment. Clearly it was a town before the others existed, and there is much to be said for leaving it as it is, while giving it every encouragement to become the prosperous small shopping centre that it is well suited for. The main change needed would be the re-routeing of the A.595 further to the west, so that Egremont's good-looking main street could retain its quality and the agreeably narrow and winding Bridge Street its domestic scale.

Frizington, the most northerly of the three, is an unexpectedly gloomy straggle along a main road, finishing only a mile or so away from Cleator Moor; and it is here, in the more or less derelict land between the two, that existing housing could most fruitfully be consolidated. Cleator Moor is a not particularly well designed town, but it is comparatively compact and would not suffer from expansion in the right directions. These are to the north (especially in the small parcel of land between the present town and the railway) and, more doubtfully, a short way to the south, particularly if dismal Cleator could be done away with. On the east the hills fortunately make building impracticable. What there is some danger of, and what must not happen, is any further sprawl to the west, where Cleator Moor's rather frayed edges are already disagreeably close to Hensingham, an interesting early suburb of Whitehaven. At present Cleator Moor is doing some infilling on the south side of its long main street (where some naive attempts at house-painting enliven the rather drab scene): the principle is certainly a good one (though the closely built rows of houses might come uncomfortably soon to look like bits of nineteenth-century bye-lawism), but a larger view will be needed if there is any chance of clearing up some of the mess: almost perhaps a closing—a well-planned closing—of the gap between Cleator Moor and Frizington. It would be a small price to pay if one could eliminate the thin dribble of houses and derelict mines which now stretch halfway from Egremont to Cockermouth.

Andor Gomme

P.S. The recently announced closing of Maryport Harbour marks a further (if regrettably logical) step in the town's decline. But this makes it more, not less, important that new industry be brought in to give this very genuine community something to live on.

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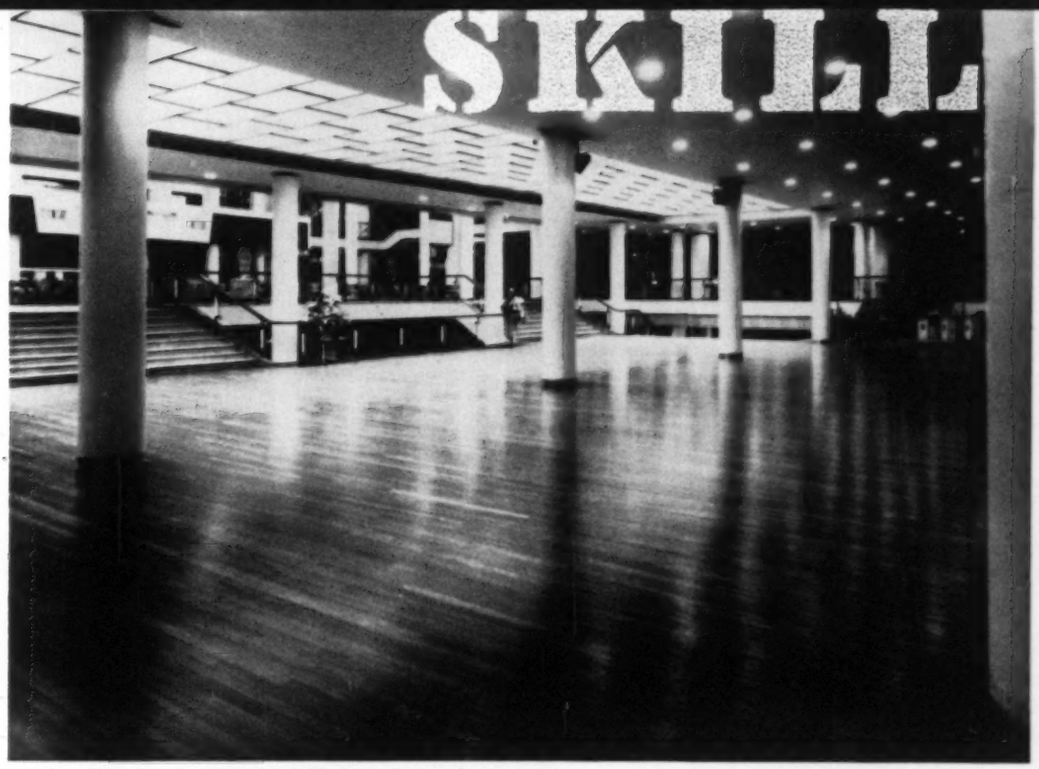
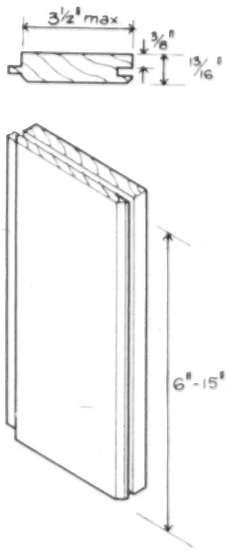


1, *the lower foyer at the Royal Festival Hall. The floor is* $\frac{11}{16}$ *in. thick muhimbi strip.*

HARDWOOD FLOORING 2

by G. C. A. Tanner

This is the second of two articles. It describes contemporary fixing methods for the traditional strip, block and parquet floor and a few of the patent flooring systems at present on the market. It discusses a patent process for stabilizing timber and also the need for preservative treatment. Finally it considers the question of costs.*



2, *hardwood flooring block showing basic dimensions and typical profile.*

In the first article it was pointed out that the choice of a hardwood for the floor is not just a matter of deciding which species will provide the colour and figuring to suit the overall scheme of decoration. This, of course, is important and one should expect to exploit the decorative qualities of the material. But the resilience of hardwood, its long life and its resistance to heavy wear make it well suited to industrial use and to such specialized uses as dance floors, 1, and skating rinks, and the designer should ask himself two questions in making a choice: (i) the purpose of the floor, to which is related intensity of traffic, and (ii) the desired appearance. Bulletin No. 40, *Timbers for Flooring*, issued by the Forest Products Research Laboratory, groups species according to the traffic they will take. The same grouping is reproduced in BS 1187 : 1959 and the TDA *Wood Floors*. It will thus be possible to short-list species which will satisfy the functional requirements. The final choice may be made from the short-list by visiting the TDA, the Building Centre or the yard of a manufacturer. Cost probably will be another factor in the choice and this is discussed later.

The traditional floor

The demand for the traditional hardwood floor does not appear to have diminished in spite of the increase in patent systems on the market.

*AR, September, 1960.

There are three main categories of hardwood floor:

Strip: a piece of timber with a maximum nominal width of 4 in. (widths exceeding this are referred to as *boards* and run usually only in softwood), a maximum nominal thickness of $1\frac{1}{2}$ in. (usually 1 in.) and a minimum length of 3 ft. It is tongued and grooved and generally end-matched, that is one end grooved and the other tongued. This means that it is not necessary for joints to occur over battens or joists.

Block: a piece of timber, 2, with a finished width not exceeding $3\frac{1}{2}$ in., a finished thickness not exceeding $\frac{13}{16}$ in., a clear wearing thickness of $\frac{3}{8}$ in. above the interlocking system and a length not less than 6 in. nor more than 15 in. Most common lengths are 9 in. and 12 in. Interlocking systems vary, many being mere refinements of the tongue and groove. Traditional block floor patterns are shown in 3.

Parquet: BS Code of Practice CP 201, *Timber Flooring*, describes parquet flooring as consisting of hardwood strips of various sizes and shapes usually $\frac{1}{4}$ in. thick and in various decorative patterns, and inlaid parquet flooring as consisting of small blocks of wood, $\frac{5}{16}$ in. to $\frac{7}{8}$ in. thick, glued together to form a panel which may or may not be backed by canvas, plywood or solid wood. When laid on a joisted floor the parquet must be fixed to a plywood or hardboard underlay, and it is desirable that an underlay be used even when parquet is laid on a solid floor. The usual method of fixing parquet to underlay is by gluing and pinning.

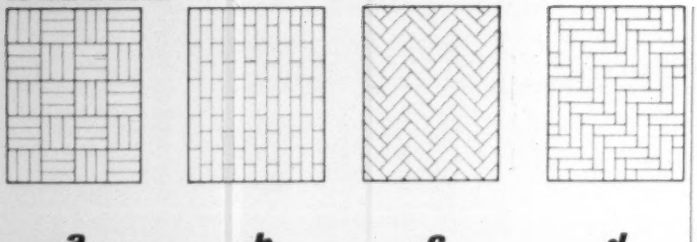
Methods of fixing

The sub-floor involves construction principles which should be basic knowledge to the practising architect, and it is not the purpose of this article to explore the subject in detail. It is sufficient to say that the implications of sub-floor ventilation and damp-proofing are of utmost importance to a sound floor, and attention is drawn to BRS Digest No. 1, *The Design of Timber Floors to Prevent Dry Rot*, which is as good a guide to this aspect of construction as any currently available.

Possibly the point most difficult to grasp is that, once kiln-dried, flooring must be stored in conditions of temperature and humidity which are the same, or as nearly the same, as those of the completed building. Flooring should not be laid until such conditions exist in the building and contractors usually try to arrange to do their work when everything else virtually is finished. This means windows (including glazing) and doors fixed, plastering finished and painting and decorating completed as far as possible, though skirtings should not be fixed until after the flooring is laid.

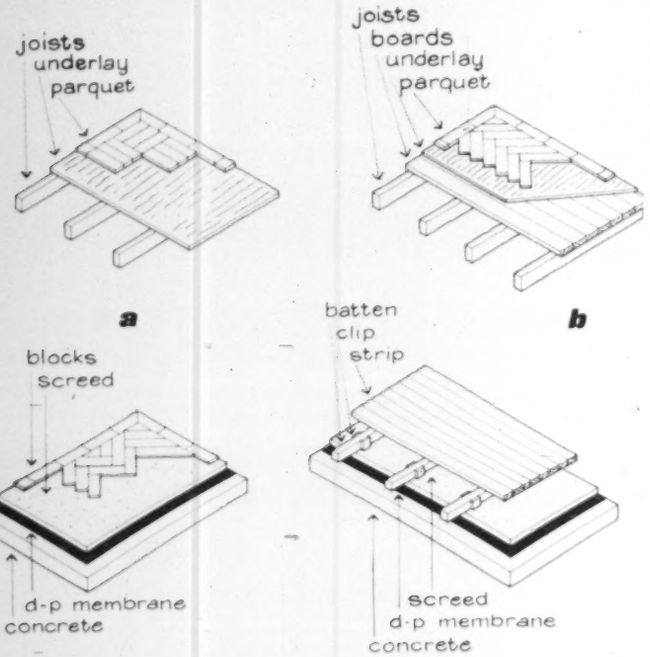
The following points should be borne in mind.

1. Only block or parquet should be fixed with an adhesive. Strip should always be nailed.

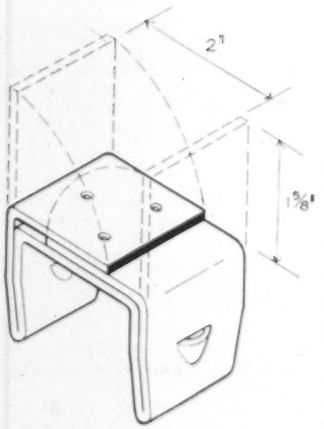


a b c d

3, *some traditional patterns for laying out block floors: a, square basket; b, brick half bond; c, herringbone; d, square herringbone.*



4, *traditional fixing methods:*
a, parquet on joisted floor with a plywood underlay;
b, parquet on a joisted and boarded floor with a plywood underlay;
c, wood block on screed;
d, strip on battens fixed to clips set in screed;
e, strip on dovetail battens embedded in screed.



5, *a batten fixing clip (bulldog type). The legs are set into the screed whilst green. When the battens are laid the flaps on the clip are prised up and nails driven through them into the battens.*

2. Fixing by nail into a nail-holding concrete or screed is definitely not recommended.
3. The surface of a solid sub-floor must be finished with a sand cement screed, at least 1½ in. thick, on which the flooring is laid.
4. The damp-proof membrane on a solid sub-floor should not be pierced either by the nails with which strip flooring is fixed to battens or by patent batten-holding clips embedded in the screed.

Ventilation: It goes without saying that a joisted timber floor must be adequately ventilated. Provision should be made for air bricks or other openings which will ensure a positive air flow between oversite concrete and the underside of the floor. A rule-of-thumb given in the BRS Digest is to allow 1½ sq. in. of open area of vent per foot run of external wall. On the other hand where strip flooring is nailed to battens embedded in a screed it is important that no air spaces be left between the top of the screed and the underside of the flooring, and it is necessary that the surface of the screed be absolutely dead level. As this is difficult to achieve in practice, a hot bitumen compound, complying with BS 743, *Materials for Damp-proof Courses*, should be spread over the screed and battens, as a gap filler. Positions of battens may be marked on the walls.

Damp-proof membrane: Where flooring is laid on a solid sub-floor at ground level it is necessary to use a damp-proof membrane. Common types are asphaltic bitumen and coal tar pitch, at least ¼ in. thick. The ideal arrangement is a sandwich construction in which the membrane is between two thicknesses of concrete slab. It is more usual, however, to place the membrane between slab and screed, an arrangement which has its disadvantages. For example, where flooring is nailed to battens secured to clips, the legs of the clips embedded in the screed will pierce this membrane.

Nailing battens: It will be seen from drawing, 4, that there are two ways of supporting the nailing batten. One is to embed it in the screed, in which case it should be of dovetail cross-section. The second method is to fix the batten with patent fixing clips which are embedded in the screed whilst green. There are several quite satisfactory proprietary makes available, 5, usually made in sherardized sheet steel. Clips improvised on the site should never be used, as squeaking floors too often result from clips working loose from the screed. They should be spaced at 12 to 24 in. centres. Battens should be a minimum of 2 in. by 1½ in. (preferably 2 in. by 2 in.) and may be softwood, but certainly should be pressure-impregnated with a preservative beforehand.

Screed: should be 3 : 1 sand cement. It is imperative that the screed be bone dry before the floor is laid. BRS Digest No. 1 describes one or two methods for testing the dryness of a screed. A wet screed is probably one of the greatest single causes of failure, next to incorrect moisture content. If the screed has not dried out thoroughly before laying, the process will continue and inevitably cause expansion of the flooring itself. To avoid this the screed should be laid at least two to four weeks before the flooring contractor comes on to the site. It is not wise to incorporate waterproofers or rapid hardeners in the screed as this considerably delays drying-out time. The screed should be levelled and brought to an even surface with a wood float and should be hard, dust free, and devoid of cracks or hollows. Where electric floor-warming is embedded in it the manufacturer will stipulate a minimum thickness (usually 2½ in.). Otherwise it should be not less than 1½ in. thick or 2 in. where battens are embedded in it.

Underlay: Where block flooring is to be laid over joists or on an existing board floor the most satisfactory underlay is a resin-bonded plywood. When used under parquet flooring and fully supported (i.e. on boarding) plywood ¼ in. thick is satisfactory. When laid over joists it should be ⅜ in. thick over 12 in. spans and ½ in. over 16 in. Sheets should be butt-jointed with an expansion joint filled with mastic between them. Joints must occur over joists or bridging-pieces. Nails or screws should be fixed not less than ¼ in. from the edge of the sheet and at 12 in. centres. Screws should be ½ in. longer than plywood thickness.

Expansion: To cater for the inevitable movement in the floor (which, however, should be small if correct moisture content and good practice have been observed) expansion strips or gaps should be provided around the perimeter of all rooms and across doorways. Usual methods of doing this are either to leave a space between floor and wall masked by the skirting or to insert a strip of cork, the full thickness of the floor, between floor and wall.

Adhesives: used by the trade for wood block floors are either a hot or a cold type. Primers should be used with hot adhesives, and according to CP 201, may be of two types—(*a*) adhesive thinned to brushing consistency with a thinner such as creosote, and (*b*) black varnish. Hot adhesives stipulated in the Code are—(i) asphaltic bitumen or (ii) coal-tar pitch. When a hot adhesive is used the screed is first coated with the primer and each block dipped into a bath of the adhesive and laid in position. There are several bituminous emulsion cold adhesives on the market. Mixed with rubber latex these tend to restrain the blocks should they attempt to move. Cold adhesives of this type do not require priming of the screed. Blocks are usually chamfered or sometimes rebated along the bottom edges to permit adhesive to work up between them when the flooring is laid.

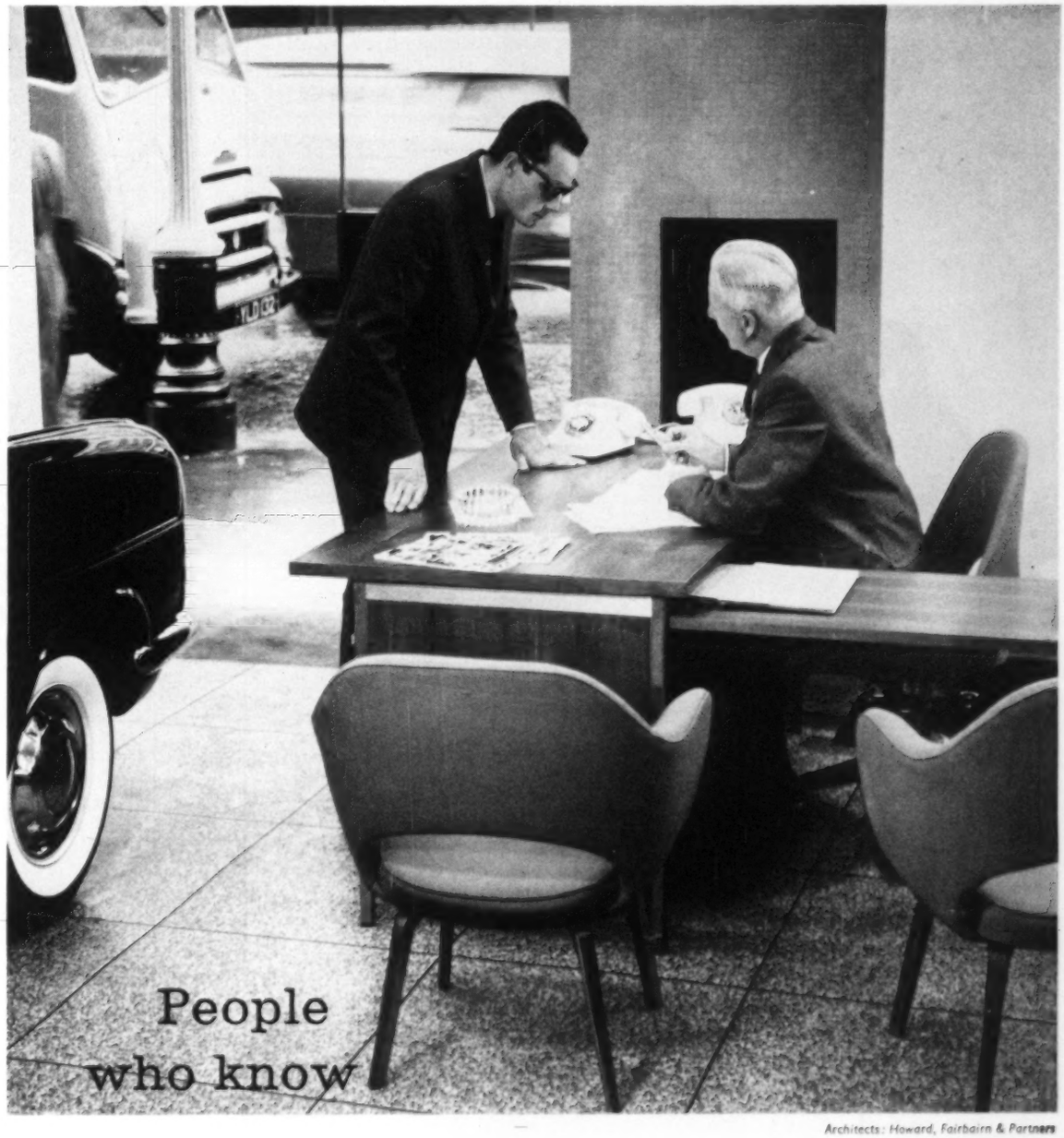
Some patent systems

In recent years more and more patent systems have appeared on the market and a few are described here. No attempt is made to review the quite wide field but as, inevitably, they will take their place alongside traditional forms, the object here is to outline the range of systems by citing typical examples.

The Windsor Floor: was the first of its type on the market, having been developed as early as 1949. It consists of five little fingers of hardwood each ⅜ in. thick, fitted together side by side to form a 4½ in. square. Squares are put together to make up a panel 18 in. by 18 in. with the fingers of one square running at right angles to those of the adjacent one. A sheet of tough paper is then glued to the *top* face of the panel. Each panel is laid in a bitumen latex emulsion adhesive on the sub-floor and the paper is stripped off, 6. It is a similar process, in effect, to the laying of mosaic tiles. (Winsorflor Limited.)

Aluflor: Superficially this is similar to the Windsor floor. Five little fingers of hardwood, having a

[continued on page 381



Architects: Howard, Fairbairn & Partners

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highlights:

The importance of selection of colours according to an orderly plan in consideration of decoration of buildings, either within or without, is now generally recognised, but the use of adjacent colours, more particularly broken in design by the judicious use of highlights, is only being gradually used systematically in this country.

Human vision and the human eye is adapted, by many years of evolution, to daylight and in the great majority of cases any decorative scheme is seen against a backcloth of white daylight. The influence of this white light upon general schemes of decoration is often neglected or at least forgotten. Such daylight helps to dilute and blend the various colours of a decorative scheme, and by utilising this principle — that is the introduction of highlights into a decorative scheme — it can be raised from mediocrity to a reasonable standard.

Highlights can be introduced by the judicious use of very light colours in small areas upon window frames and doors and forming a mosaic pattern of strong colours outlined by white lines. In this way the general appearance of a decorative scheme can be made attractive and harmonious.

Goodlass, Wall & Co. Ltd., Corn Exchange, Liverpool 2 or 179/185 Gt. Portland St., London W1

COLOUR

continued from page 380]

thickness of $\frac{3}{8}$ in. are fitted into a square and 16 squares form a panel, 18 in. by 18 in. The difference, however, is that the panels have a perforated aluminium foil sheet on the *underside*, 7. Otherwise it is laid in a similar manner. (Calders (Southern) Ltd.)

Feltwood is the same principle as *Aluflor* in that it comprises 18 in. by 18 in. panels made up of small fingers of hardwood laid in squares. The difference is that the permanent backing is bitumen felt bonded to the underside of the panel. (Vigers Brothers Ltd.)

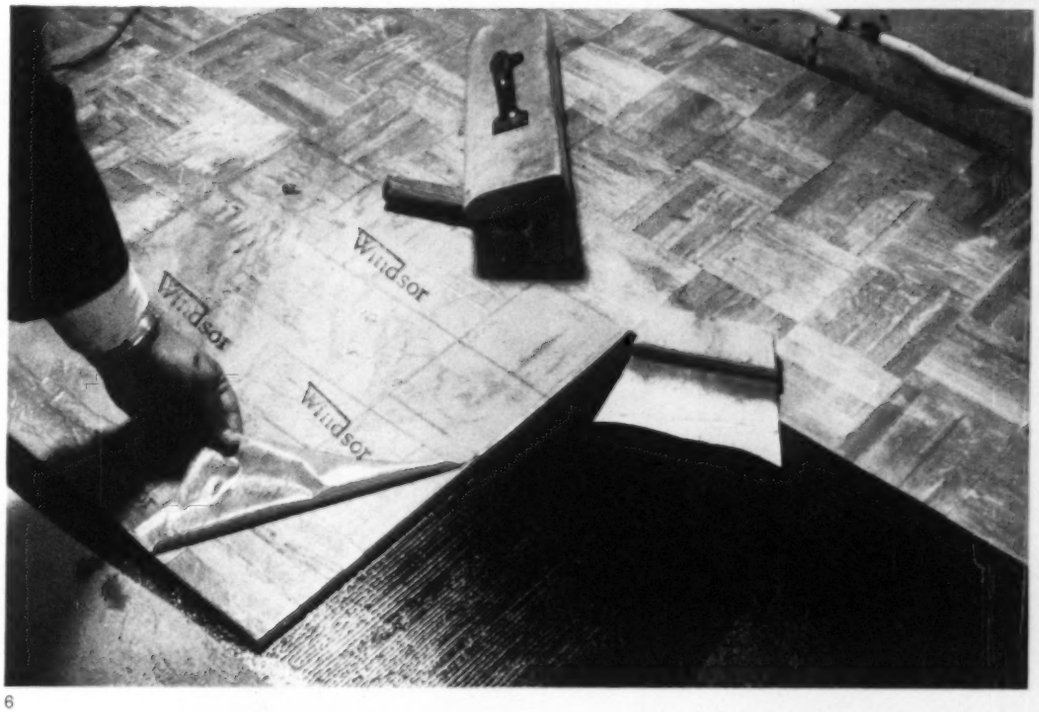
All three systems, of course, are laid in adhesive on a previously prepared screed.

Lynx Parquet Panels, 8, are a form of laminated construction made up of three layers in thickness. The bottom and middle layers are softwood, the latter providing end-grain wedge-shaped tongues. The top layer is hardwood. All three layers are bonded together with a waterproof resin adhesive and each panel is $8\frac{3}{8}$ in. by $8\frac{3}{8}$ in. by $\frac{1}{2}$ in. thick. The floor is laid dry with no adhesive, nails or other fixing. (Horsley, Smith and Company (Hayes) Ltd.)

Durabella flooring. The idea of dimensionally stabilizing timber by processes which would render it inert or at least bring it to a condition in which subsequent movement was substantially reduced has fired the imagination of many people connected with the trade. So far as the writer knows, however, only one such process is practised in this country, the one used in producing Durabella flooring. This process was originated by a French cooper named Jeantelot some years ago in Paris and involves immersing the flooring blocks in tanks containing oil at a temperature of 300 deg. F. to 400 deg. F. depending on the species of timber. Residual moisture is expelled from the wood fibres and replaced with the impregnating oil. Once this occurs moisture cannot re-enter. The manufacturers state that tests have shown that the process results in a hardening of the fibres which makes the wood impervious to staining by cement and lime.

Prior to the stabilizing process the timber is manufactured on more or less traditional lines. It is kiln-dried then passes into the factory where the blanks are dressed down to 'fingers' $\frac{1}{2}$ in. thick by 1 in. wide by either 8 in., 10 in. or 12 in. long. Four fingers are placed side by side to form a block, 9, and held together by three rows of three corrugated galvanized steel fasteners which are driven into the underside of the timber and project $\frac{3}{8}$ in. below it.

In laying, the essential point of difference is that Durabella is bedded in *a wet screed*, 10. There is no adhesive. When the screed sets the corrugated fasteners are firmly embedded in it. This means that the flooring can be laid during the construction stages of the contract, eliminating the usual problem of getting a screed down early enough to dry out before the floor is laid but not so early as to risk damage during construction. Sanding and finishing take place at the end of the job. The flooring should not have traffic over it for three or four days after laying, a condition which necessitates careful site programming and which could be a disadvantage if the floor is to be laid as a replacement for another covering in an existing building. The virtue of immediate laying, however, coupled with relative immunity to the abuse which subsequent site



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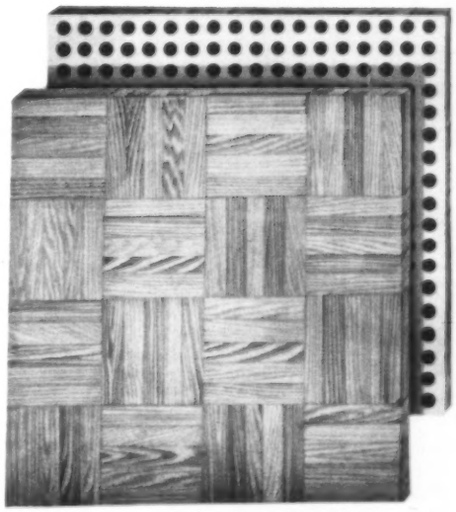
6, *the Windsor floor. The 18 in. by 18 in. panels have been set in adhesive and the paper is being peeled off the wearing surface.*



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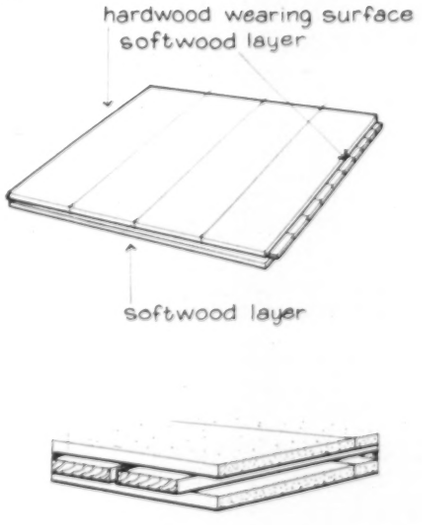
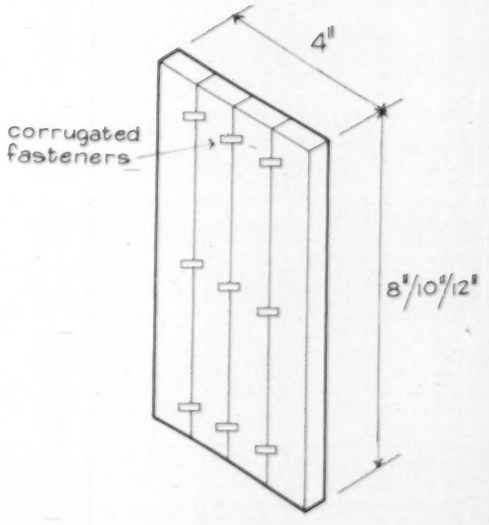
7, *Aluflor panels showing the wearing surface, left, and the underside.*

8

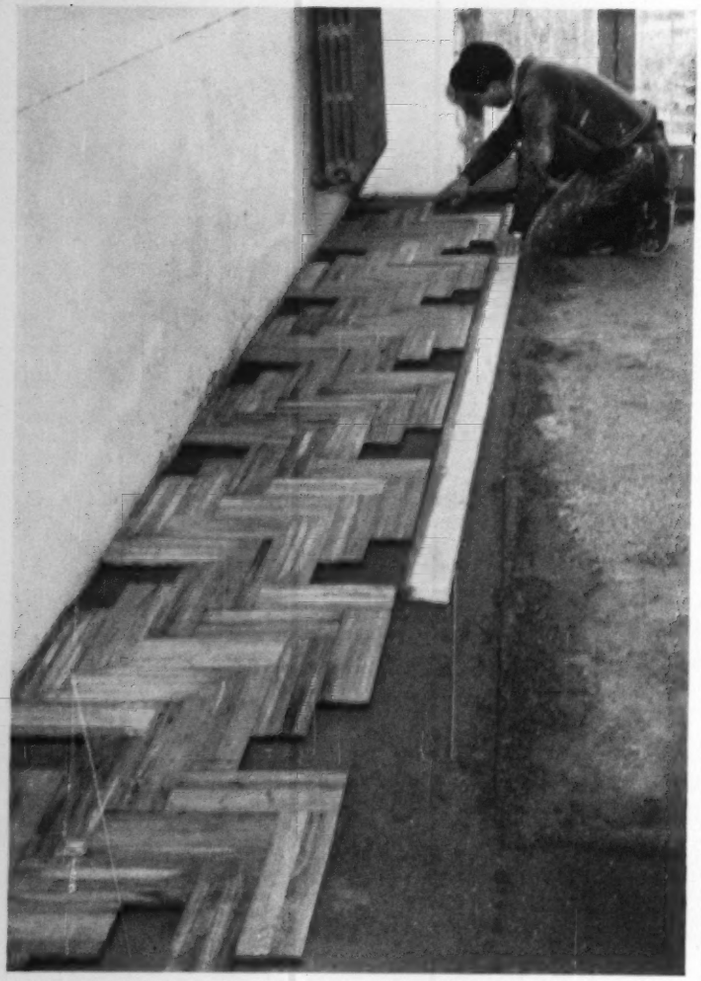


8, *top, Lynx parquet panel; bottom, detail showing laminated construction.*

9



9 *Durabella block.*



10, laying Durabella flooring. The blocks are being set out to pattern on top of the green screed.

work may offer, opens up great possibilities in the direction of prefabricated construction.

Tests carried out by the Centre Technique du Bois in Paris in 1954, some of which subsequently were repeated by the research laboratories of the TDA, show that Durabella has an impressive resistance to climate changes, the reports from tests stating that complete stability in overall dimensions and freedom from detachment under conditions ranging from 45 to 85 per cent relative humidity and 25 deg. C. to 50 deg. C. temperatures were observed. These and other tests show that it is eminently suited for use with electric floor warming. (Barnes and Fletcher Ltd.)

Treatment of timber

Stabilization: The stabilizing process used in producing Durabella flooring seems to be the only one practised in this country, a fact which is hard to credit if one accepts that movement in timber due to variation in temperature and humidity conditions is at the root of most failures in floors.

Fungal and termite attack: It is often necessary to treat timber to resist fungal and termite attack. It has been stated already that nailing battens should be pressure-impregnated with preservative. Joists, wall plates, bearers and other timbers below ground floor level should also be protected if permanently damp conditions are likely. Dry rot fungi do not attack timber which has a moisture content below 20 per cent, and adequate cross-ventilation in the sub-floor space should be the first line of defence. The use of a preservative is a good insurance policy, however. BRS Digest No. 1 recommends impregnation in preference to brush application, which, it claims, does not afford penetration into the timber exceeding $\frac{1}{64}$ in. The Digest describes the method of 'open-tank' treatment. Reference should be made to CP 112.100, *Preservative Treatments of Timber in Buildings*, BS 1282 : 1959, *Classification of Wood Preservatives and their Methods of Application* and to *Timber Preservation*, a booklet published jointly by the British Wood Preserving Association and the TDA.

Surface treatment

Once flooring is laid the surface should be rubbed down thoroughly, using a coarse grade and finishing with a fine grade abrasive paper. This may be done by hand over small areas, but contractors are equipped with machines which can cover all but the most inaccessible parts of the floor. In the SKILL article for June, 1960, *Designing Floors for Cleaning*, Lance Wright discusses the use of button polish and wax and of floor seals and of their implications in terms of cleaning and maintenance. Readers are referred to this article. It is understood that the British Standards Institution is at present preparing a BSS on the maintenance of floors.

Costs

The laying of hardwood floors is specialists' work and quotations will have to be obtained, either by the architect if the flooring contractor is to be a nominated sub-contractor, or by the main contractor. Prices for different jobs will inevitably vary according to the species of timber, the location of the job, the area of flooring and such things as whether the total area is a clear area or made up of several smaller or awkward shaped rooms, in which case laying costs will be higher. With the exception of Durabella flooring quotes generally do not include the screed, which is builder's work. Strip flooring fixed to battens set in the screed usually includes the cost of the battens. In fact there is little difference between strip fixed in this way and block, the range being (for 1 in. nominal thickness in both cases) 45s. to 55s. per yard super. Hardwood strip with a nominal thickness of 1 in. fixed to joists generally costs less, its range being 40s. to 50s.

Conclusions

The floor surface in a building is a finish. It is regarded as such by the architect and quantity surveyor and often suffers the fate specially reserved for finishes in cost planning. When savings must be made they are the first to be reduced. As far as the floor is concerned this is false economy. It must be remembered that the floor is the only finish which is walked on, and the hard wear that it gets during the life of a building may mean that any savings made in the first cost at the expense of quality will be lost two or three times over in maintenance and repair.

There are a few points which always should be borne in mind during the design stage in selecting a floor finish. They are even more important now that standards of heating are improving and the use of floor-warming and ceiling-panel heating increasing.

1. It is essential that flooring be kiln-dried to its correct moisture content.
2. This means informing the flooring contractor in good time of the means of heating the building and the conditions of temperature and humidity which will prevail.
3. It is important to select the right floor for the right job. Apart from appearance a hardwood floor has qualities which suit it to specialized uses. It is not suitable for every circumstance and the building owner is not necessarily getting the best floor because he is paying the most for it.

It is encouraging to know that a BSS on the maintenance of floors is being compiled and that the appropriate Code of Practice on timber floors is scheduled for revision. Its endorsement of the use of a nail-holding screed and its recommendations on damp-proof membranes are two subjects in need of reconsideration.

One further point is worth observing. The trade is rather cautious in its reactions to stabilizing processes such as that used in Durabella flooring. But the increasing advent of patent systems, such as Windsor Floor, Aluflor and Feltwood, point strongly to the fact that all are aware that some attempt to solve the problem of movement in timber is worth making. The future progress of the trade in this direction will be of considerable interest.

THE INDUSTRY

Light fittings

Frederick Thomas's catalogue 'R' is remarkable for the large number of light fittings shown which are architect designed. The two which we show on this page are specialized fittings for hospital wards designed by the Division for Architectural Studies of the Nuffield Foundation, but there are also fittings designed by John Bickerdyke, the Architects' Co-Partnership, Eric Lyons and several others. A price list is also issued with the catalogue.
Frederick Thomas, Everton Buildings, Stanhope Street, London, N.W.1.

Acoustic materials handbook

Armstrong Cork have just issued a first rate handbook on their acoustic materials. This begins by lining up their three main products: Cushiontone (in four varieties), Travertone and Corkoustic, and gives their sizes, their noise reduction, how to instal them, their cost with different fixing methods and how to maintain them. There is a good section on installation which makes (among other matters) the often forgotten point that acoustic ceilings should be fixed after the building has been enclosed and when the heating system has been operating for at least a month. Another section discusses maintenance and repainting (spray is better than brush or roller) and yet another gives detailed sound absorbence figures for different wavelengths. In all this gives a very high

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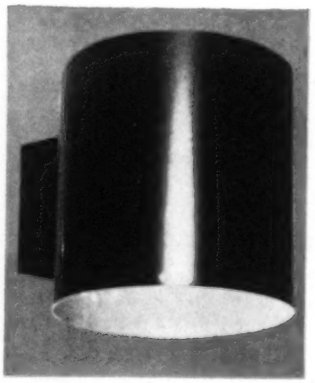
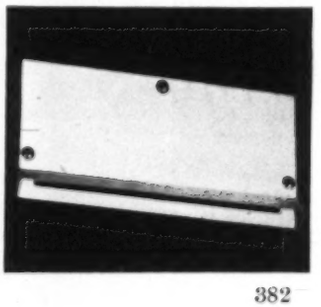


1, the bolthead light fitting from the range designed for hospital wards by the Division for Architectural Studies of the Nuffield Foundation, and made by Frederick Thomas.

2, the low level unit for night lighting, from the same range.



ALLOM
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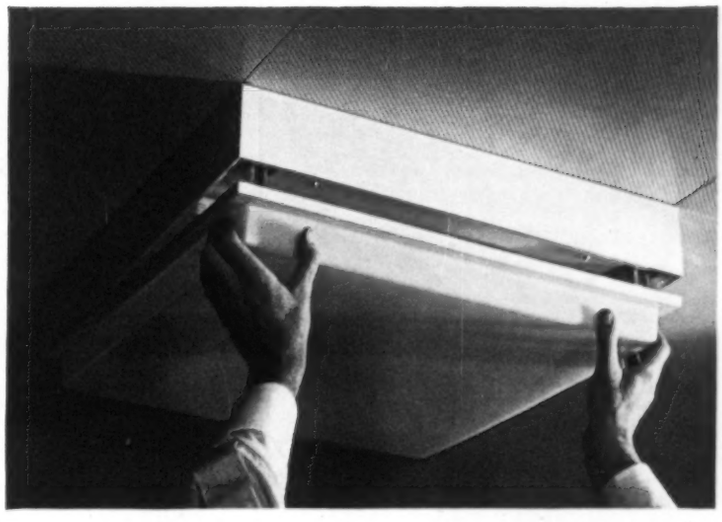

The Modular fittings illustrated made in various sizes are designed for surface mounting where space for recessing is not available.

These fittings incorporate a completely new method of securing simple maintenance by means of the Allom Heffer patent locking device (Patent application No. 32933/59) which provides:

- A positive method of opening and shutting on a pull-push principle.
- Hinging on either side of the fitting when fully clear of the ceiling.
- Complete detachment of the diffuser when required.

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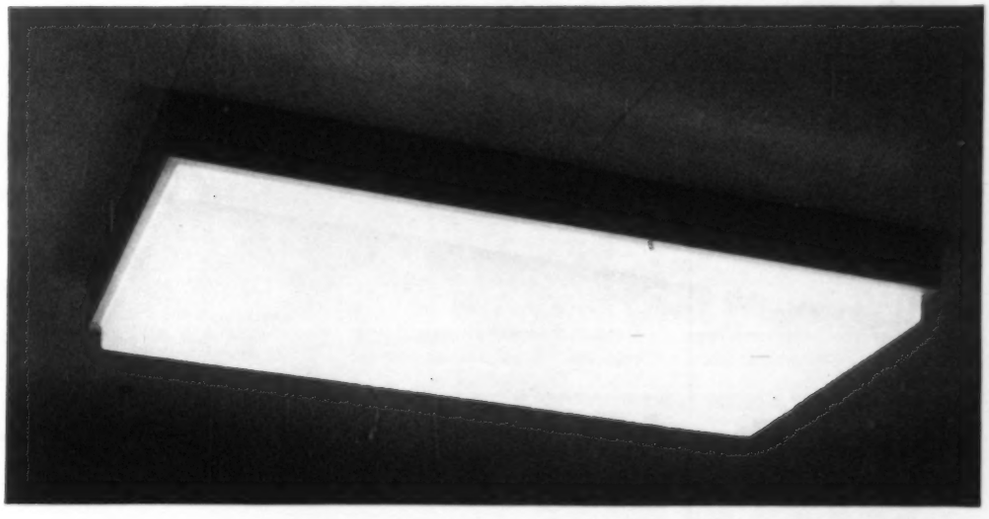
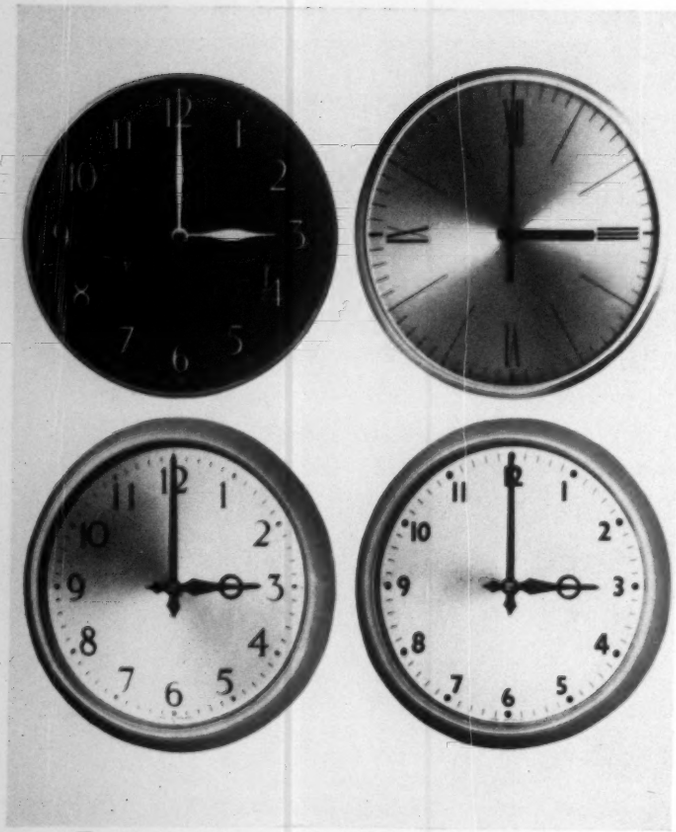


17 MONTPELIER STREET · KNIGHTSBRIDGE · LONDON · SW7 · TELEPHONE KNIGHTSBRIDGE 6897-8



3, *four dials from the new range of Minipulse slave clocks.*

continued from page 382]

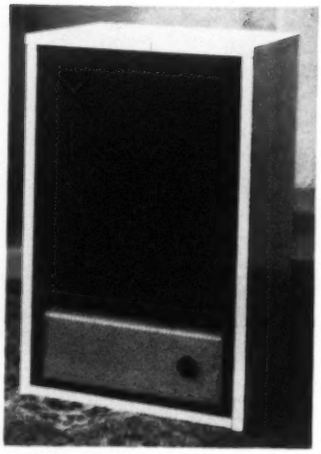
level of both scientific information and practical guidance.
Armstrong Cork Company Limited, Kingsbury, London, N.W.9.

Slave clocks

The new 'Minipulse' slave clock system claims a number of advantages over the ordinary run of slave clocks now on the market. The chief of these is that the slave dial mechanism is sufficiently small to be accommodated within the depth of the bezel. Each dial, therefore, is 'surface mounted.' Other claimed advantages are that the slave movement itself operates without the customary 'click' and that the master clock has a movement which is unaffected by temperature difference or by falling voltage. Dial sizes vary between 6 in. and 18 in. and there is a considerable range of styles. Some are illustrated here.
Minipulse Clocks Limited, 10 Storeys Gate, London, S.W.1.

Glass doors

Pilkingtons have issued a very handsome looseleaf booklet on their glass doors. This gives full data on all standardized detailing for both $\frac{1}{2}$ in. armourplate and $\frac{3}{4}$ in. armourcast and armourplate. The former is available up to a maximum size of 96 in. by 36 in. per leaf, with rails top and bottom, with a rail at the bottom only and with patch fittings. The maximum size for $\frac{3}{4}$ in. doors is 78 in. by 30 in. and these are normally supplied without rails. The handbook is an essential reference for ordering and appears to give all the technical information wanted.
Pilkington Brothers Limited, St. Helens, Lancashire.



4, *the Desomatic Super '40' vaporizing oil fired boiler.*

Oil fired boiler for indifferent chimneys

The advantage of a vaporizing oil fired boiler over a jet type boiler is that it is silent running. A common disadvantage is that the vaporizer requires rather special chimney conditions and needs frequent attention. D. E. Stuttard Limited have put a new model on the market named the Desomatic Super '40' which is

[continued on page 386

1960 MILAN TRIENNALE–MAIN BRITISH EXHIBIT: THREE-CLASS PRIMARY SCHOOL

In this school, designed by W. D. LACEY, ESQ., A.R.I.B.A., A.M.T.P.I., *Architect to Notts County Council, all the wood flooring is*

Feltwood

FELTWOOD is real wood flooring—in ready-to-lay panels of $\frac{3}{8}$" hardwood blocks indissolubly bonded to an underlay of damp-resisting felt. The mosaics cannot work loose. A heated building is not required, yet it withstands all forms of under-floor or ceiling heating.

FELTWOOD is easily laid, is available in many lovely hardwoods, has every single advantage of a traditional wood floor plus the damp-resistance and extra resilience the felt gives it—and it

COSTS BARELY MORE THAN SYNTHETIC FLOORING

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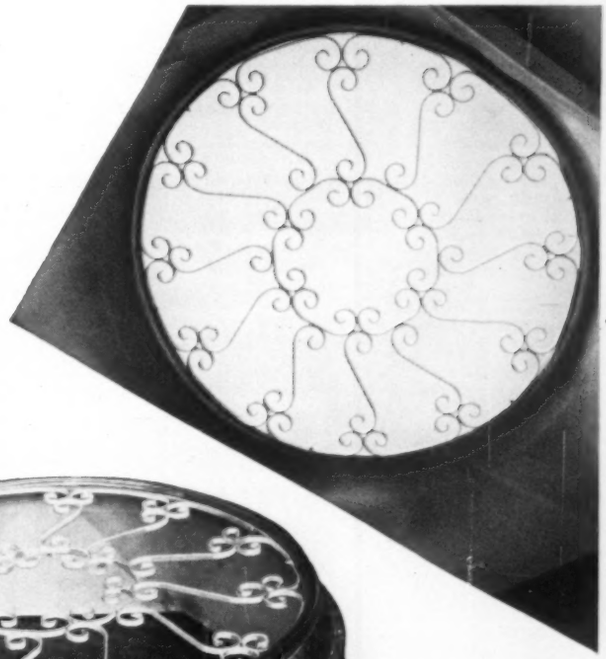
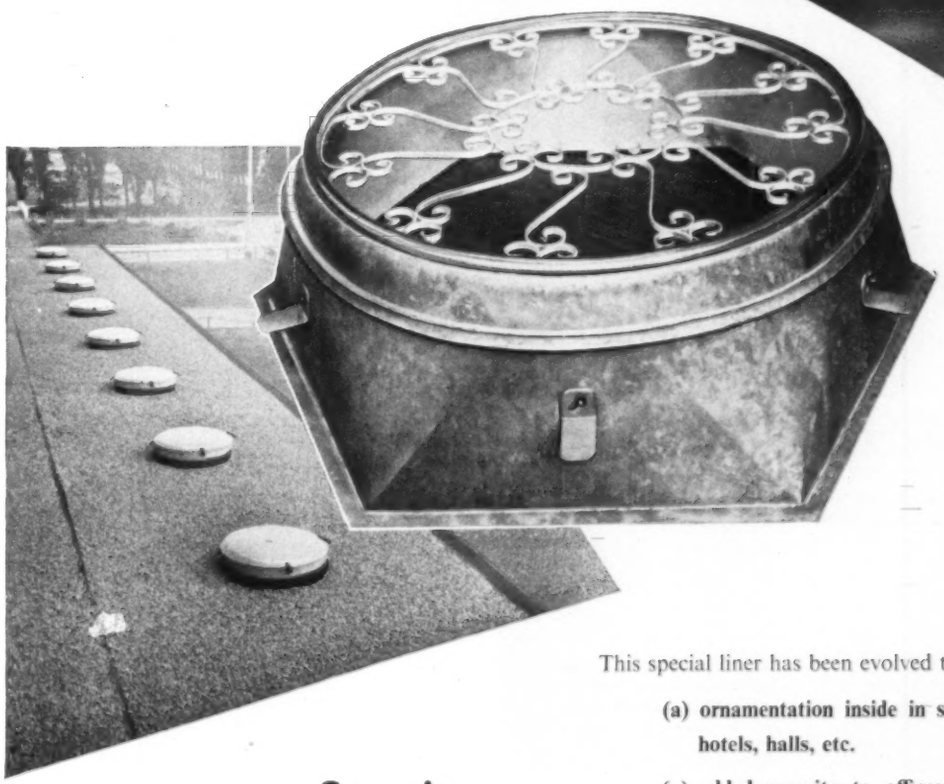
Ornamental "anti-burglar" NEWDOME TRADE MARK LINER





Security *plus* improved appearance with negligible loss of light transmission

This special liner has been evolved to give both

(a) ornamentation inside in such places as hotels, halls, etc.

(a) added security to offices, banks, post offices, shops, etc.

The wrought iron circle can be had either as a fixture or can be made removable if so desired. The liner is hexagonal at its base which also gives a very pleasing decorative effect from inside the building.

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GLASS BENDERS FOR OVER A CENTURY

continued from page 384]

claimed to have overcome these defects. Rated at 40,000 B.t.u., it is fitted with a patent burner which cuts carbonization to a minimum and with a fan which, by switching on in advance of the lighter, creates the right draught conditions and makes the boiler independent of chimney draught. The efficiency of virtually all central heating appliances diminishes to some extent as a result of carbon forming on the heating surfaces of the combustion chamber. The Desomatic Super '40' can be bought with an extra named a 'money miser mint' which makes a noise when the escaping flue gases rise above a predetermined temperature.
D. E. Stuttard Limited, Jack Bridge Mill, Colden, Hebden Bridge, Yorkshire.

New overhead door gear

P. C. Henderson Limited announce a new overhead door gear set in their 'Ultra' range which has been designed for double garages. Named the 'Ultra 325,' it is provided with precision needle roller bearings at all pivot points and can cope with doors up to 17 ft. wide and up to 325 lb. weight. The gear costs £34 complete and Espagnolette locking can be obtained for 58s. extra.
P. C. Henderson Limited, Tangent Works, Harold Hill, Romford, Essex.

New wallcovering

John Line are offering a new vinyl wallcovering named 'Balacuir' which comes from Holland. Being, in general, harder and far more resistant to wear than wallpaper (or indeed than almost any other wall surfacing)

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5, the 'Ultra 325' overhead door gear for double garages. 6, 'Balacuir' vinyl wallcovering by John Line & Sons Ltd.

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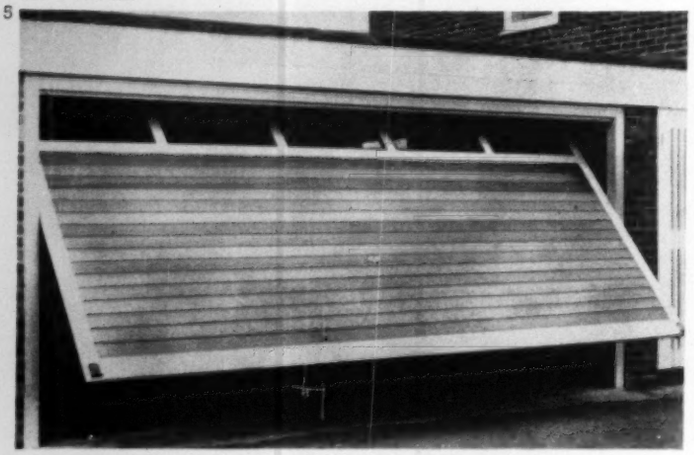

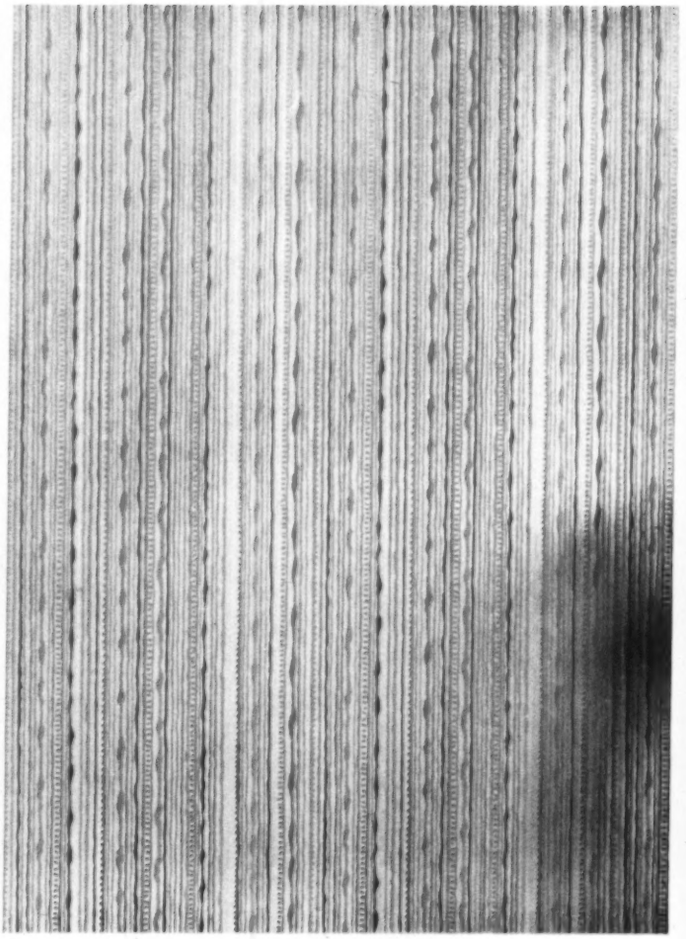

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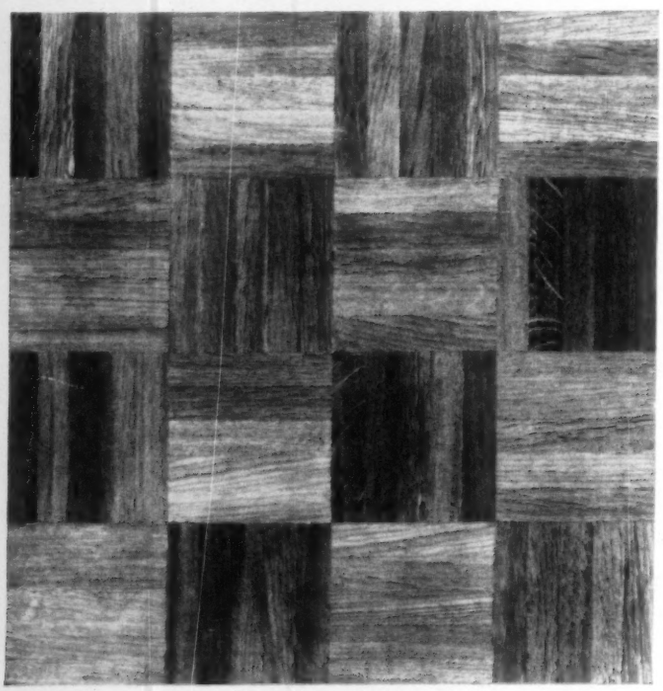

Windsor PREFABRICATED OAK MOSAIC FLOORING

The Windsor Floor
PATENT No. 544229

The above device is printed in bronze blue on the sheet of paper protecting the upper surface of every genuine panel of "Windsor" floor and is your protection against unsatisfactory imitations.

THE FIRST——
——THE BEST

The illustration depicts "Windsor" standard oak floor, "Windsor Royal" with dark oak contrasting inserts, and certain exotic timbers, are also available.

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comfort
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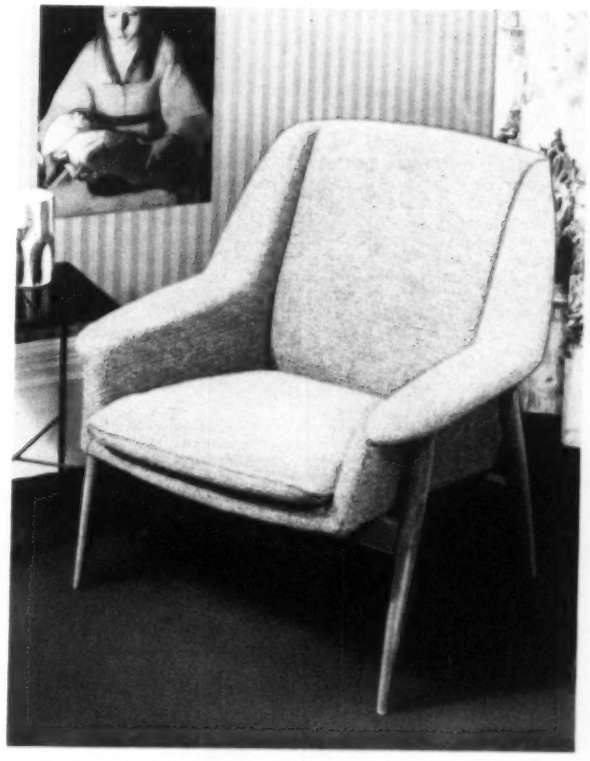

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Those responsible for the interior decoration and furnishing of hotels, restaurants, clubs, hospitals, government departments, etc., will be glad to know that Parker-Knoll chairs and settees are frequently available at special contract prices.

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In fact, they can establish the very climate of a room. They conserve heat in winter and keep rooms cool in summer. Sunway blinds let you choose the weather! Sunway are the blinds **without tapes**—an enormous improvement. The slats are virtually indestructible, and the colours (20 to choose from) permanent. Think seriously about using Sunway in offices, factories and showrooms as well as in the home.

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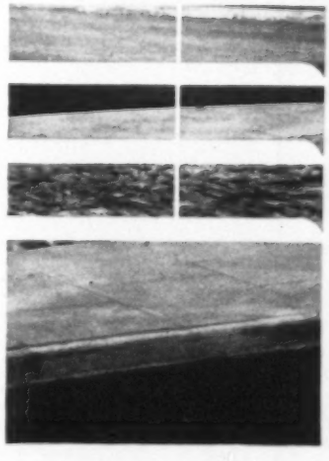

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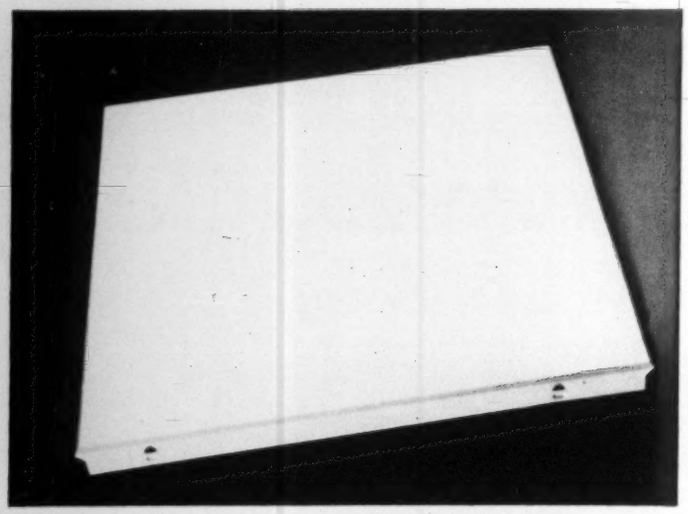

7, a fireproof acoustic ceiling by Burgess Products Co. Ltd.

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vinyl seems likely to occupy a place in decorating similar to that of linerusta. Balacuir is supplied in sixteen patterns which are divided fairly equally between textural and design patterns and most of them can be provided in about half a dozen shades. A striking feature of the range is the presence of a large number of metallic finishes. The finished width of 'Balacuir' is 39½ in. (i.e. after trimming). It is sold by the linear yard. Prices range between 8s. and 17s. 6d. but, unlike wallpaper, there is no purchase tax to be added to this.
John Line & Sons Ltd., 213-216 Tottenham Court Road, W.1.

Fireproof suspended ceiling

Burgess Products now market an acoustic ceiling which has a fireproof rating of two hours. The ceiling comprises 24 in. by 24 in. metal trays in which is laid a 1 in. slab of Stillite mattress. The ceiling can be supplied, delivered and fixed at prices ranging from 39s. per square yard.
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CONTRACTORS etc

School at St. Marylebone, London. *Architects:* Leonard Manasseh & Partners. *General contractors:* Gee, Walker & Slater Ltd. *Sub-contractors: Precast concrete structure:* London Ferro-Concrete Ltd. *Structural steelwork:* Matthew T. Shaw & Co. *Mechanical services:* Benham & Sons Ltd. *Metal windows:* Crittall Manufacturing Co. *Slate roofing:* Roberts Adlard & Co. *Felt roofing:* William Briggs & Son Ltd. *Patent glazing and lantern lights:* Faulkner Greene & Co. *Electrical installation:* Buchanan & Curwen Ltd. *Window gear:* Teleflex Ltd. *Marble wall linings:* J. Whitehead & Sons Ltd. *Lightning conductors:* W. J. Furse & Co. *Acoustic ceilings:* Petradene Ltd. *Wood flooring:* Vigers Bros. Ltd. *Tarpaving:* Wainwright Paving Co. *Vinyl tile flooring:* Holmsund Flooring Ltd. *Lettering:* The Lettering Centre Ltd. *Landscape work:* Landscape & Public Works Ltd. *Precast concrete sills:* Cowley Concrete Co. *Sanitary fittings:* B. Finch & Co. *Flue linings:* True Flue Ltd. *Wood wool slabs:* Thermacoust Ltd. *Preformed wastes and traps:* Econa Modern Products Ltd. *Terrazzo partitions:* Zanelli (London) Ltd. *Flush doors:* Thames Plywood Manufacturers Ltd. *Painted asbestos panels:* Universal Asbestos Manufacturing Co. *Sliding windows:* P. G. Allday Ltd. *Casement doors and folding partition:* Morgan & Partners Ltd. *Ironmongery:* Alfred G. Roberts Ltd. *Sliding door gear:* P. C. Henderson Ltd. *Railings and gates:* Light Steelwork (1925) Ltd. *Venetian blinds:* London Blinds Ltd. *Facing bricks:* J. & W. Henderson Ltd. *Coloured glass windows:* James Clark & Eaton Ltd. *Wood windows:* Gee, Walker & Slater Ltd.

Physics Building, Liverpool University. *Architects:* Basil Spence and Partners. *General contractors:* Holland & Hannen and Cubitts (North West) Ltd. *Sub-contractors: Piling:* Cementation Ltd. *Metal windows and rooflights:* The Crittall Manufacturing Co. *Stone facings:* The Nine Elms Stonemasonry Works. *Electrical installation:* B. French Ltd. *Structural steelwork, steel roof trusses, purlins and bearers:* R. Smith (Horley) Ltd. *Precast concrete paving:* Mears Bros. (Contractors) Ltd. *Wood block flooring:* Bennetts Wood Flooring (Tungit) Co. *Spiral staircases and fire escape ladders:* S. W. Farmer & Son Ltd. *Staircase balustrading:* George Lowe & Sons Ltd. *Mosaic wall tiling:* Proctor & Lavender. *Mechanical services installation:* C. Seward & Co. *Lift installation:* Marryatt & Scott Ltd. *Soundproof rooms:* Soundproof Construction Ltd. *Steel sliding doors:* Potter Rax Ltd. *Precast concrete cladding:* Naybro Stone Ltd. *Precast concrete roof slabs:* Celcon Ltd. *Precast prestressed roof beams:* Pierhead Ltd. *Westmorland slate paving:* Setchell & Sons Ltd. *Ironmongery:* Quiggen Bros. Ltd. *Lecture theatre seats:* Race Furniture Ltd. *Sanitary fittings:* Musgrave (Liverpool) Ltd. *Steel wall channels:* Metal Sections Ltd. *Armourplate glass doors:* James Clark & Eaton Ltd. *Cement glaze:* John Ellis.

Parish Hall, Finchley, London. *Architect:* Kenneth Wood. *General contractors:* Dove Bros. Ltd. *Sub-contractors: Structural units:* Kingston (Architectural Craftsmen) Ltd. *Roofing:* British Aluminium Co.; Excel Asphalte Co. *Slate cills and cross:* Bow Slate and Enamel Co. *Hardwood flooring:* Acme Flooring Ltd. *Sanitary fittings:* Adamsez Ltd.; Alfred Goslett Ltd. *Door furniture:* Allgood Continental Ltd. *Window gear:* Teleflex Ltd. *Paints:* Thos. Smith & Son Ltd. *Wallpaper:* Arthur Sanderson & Son Ltd.

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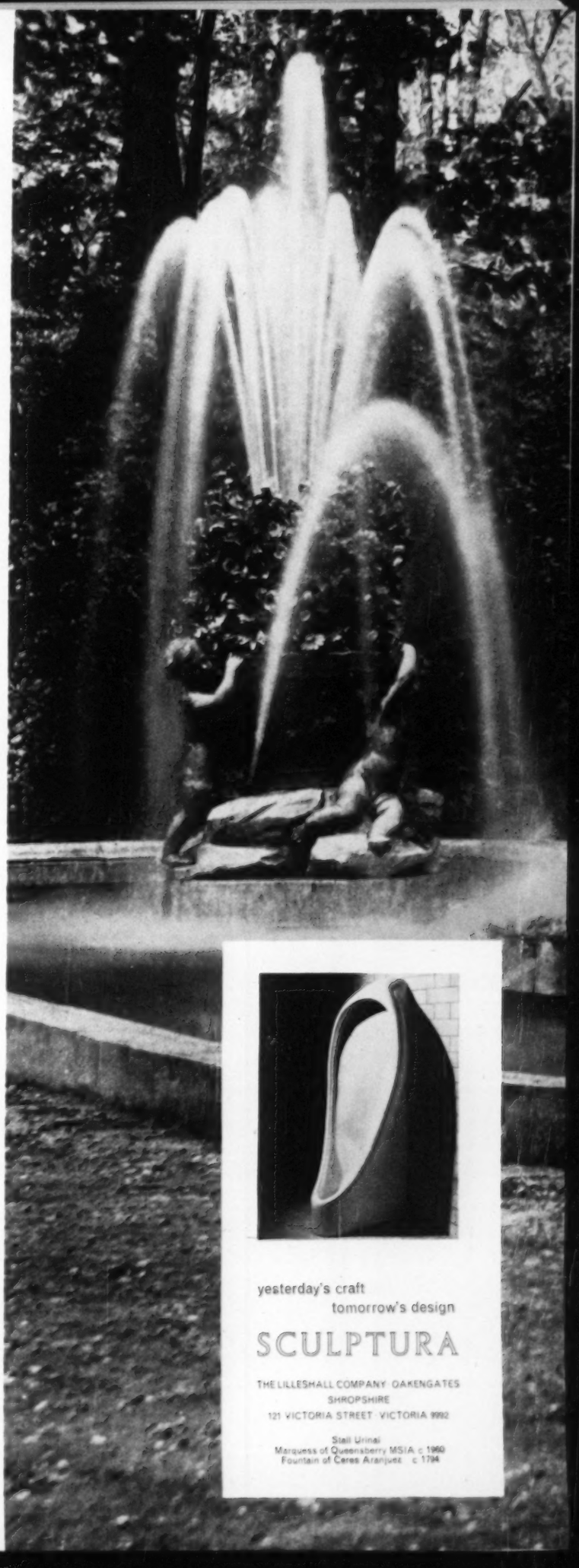

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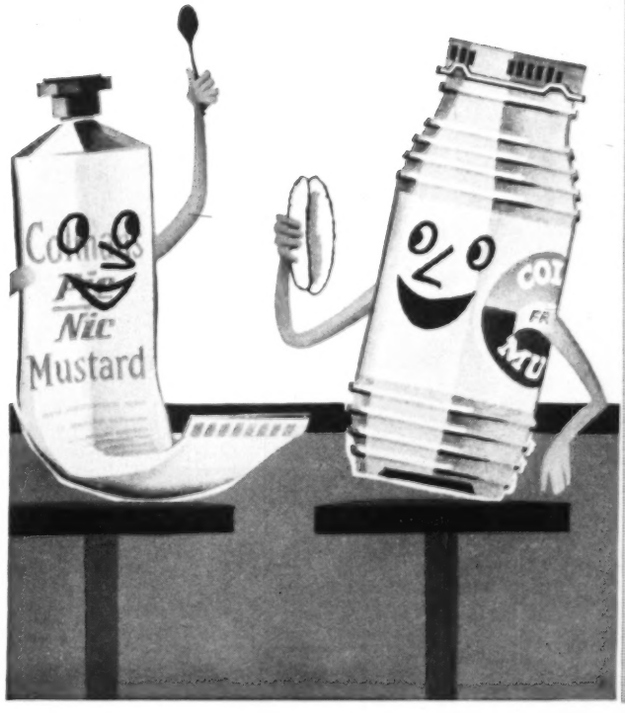

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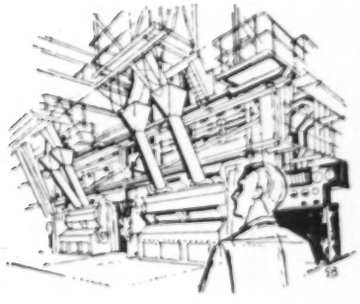
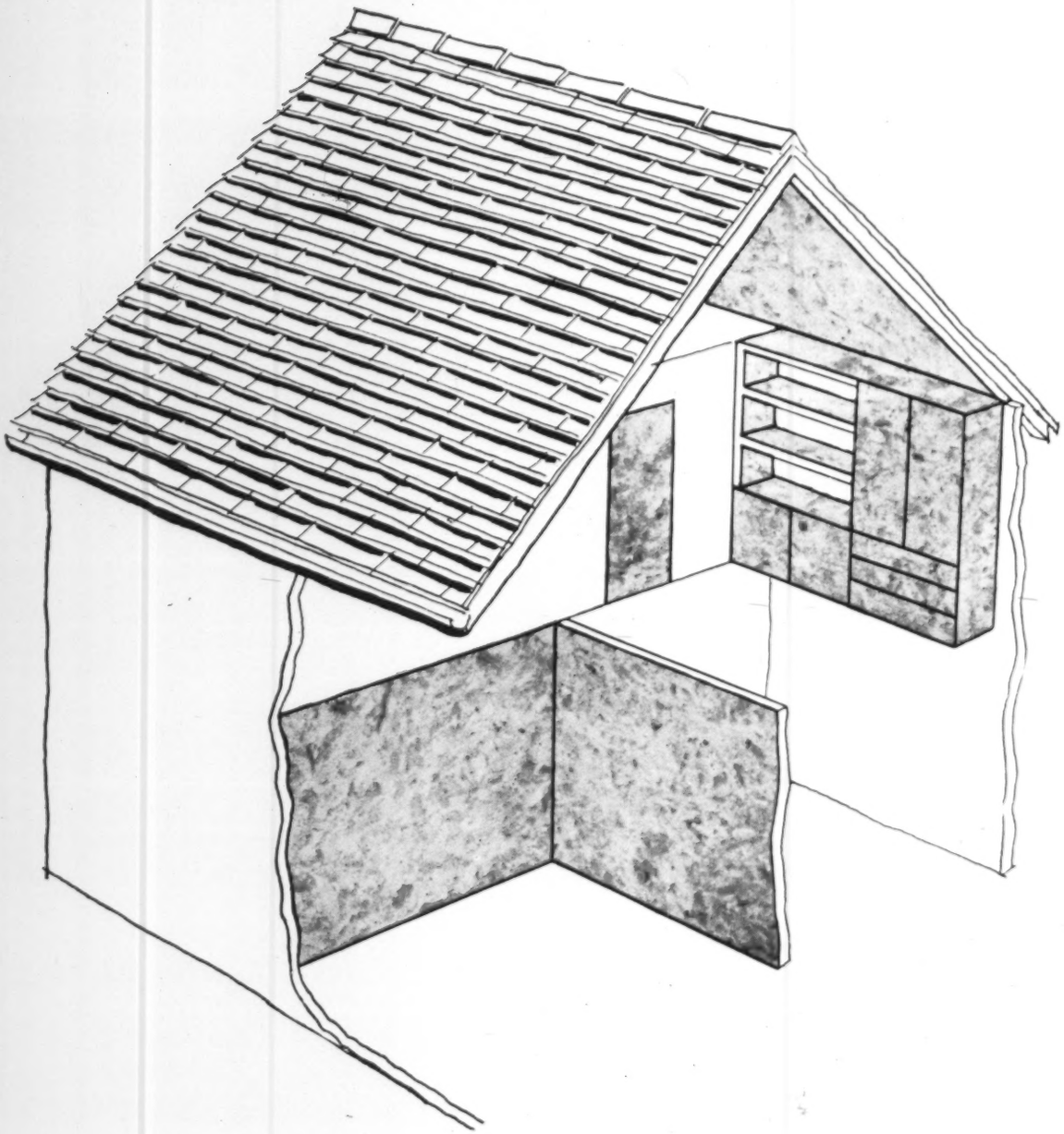
We look back over more than thirty years' experience of burning coal on chain grate stokers with the conviction that no other fuel can meet our needs economically."



Here are some key facts and figures about the consumption of coal at Colman's:

Number of boilers: .....5 water tube
Method of firing: .....Chain grate stokers
Steam pressure: .....250 lbs. per sq. inch
Continuous max. rating: .8,000 lbs. per hour each
Steam temperature: .....600°F.
Feed temperature: .....138°F.
Annual fuel consumption: .....6,000 tons of coal



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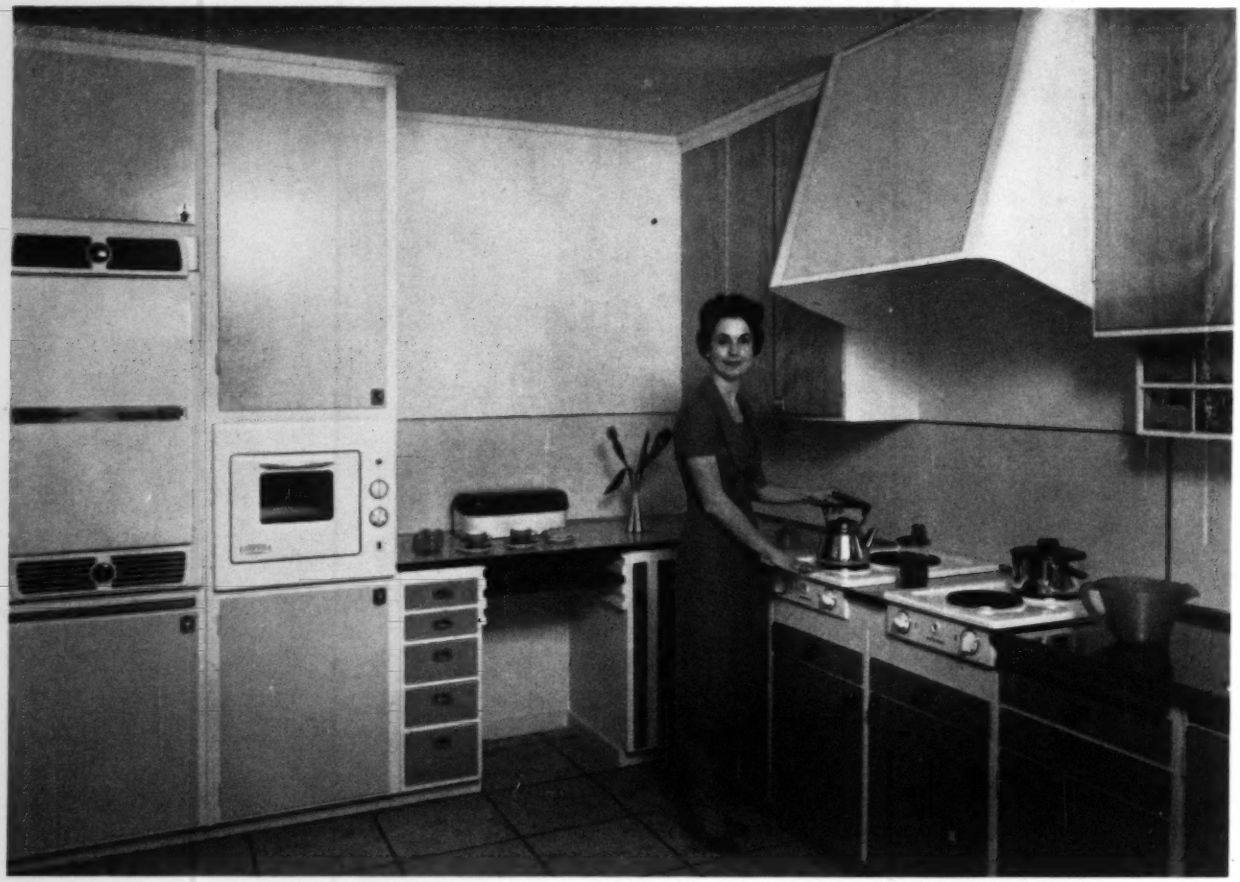

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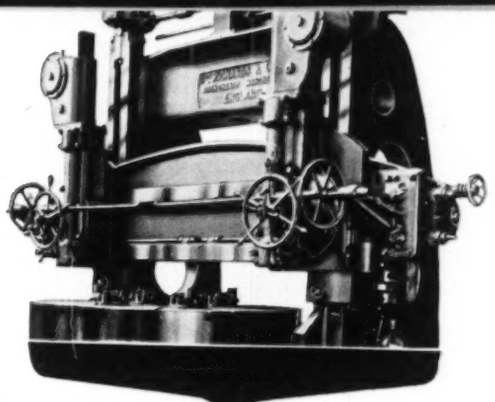

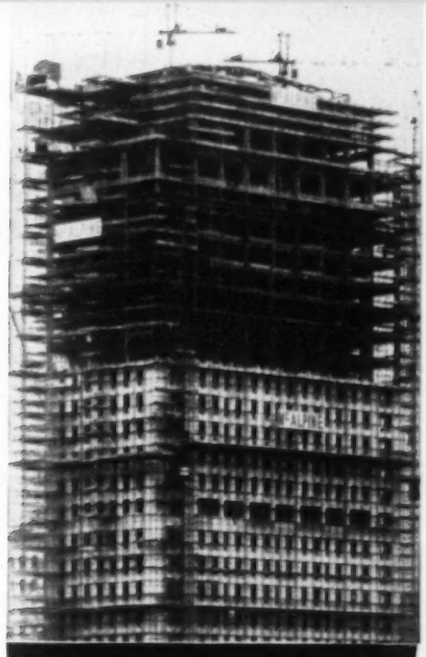

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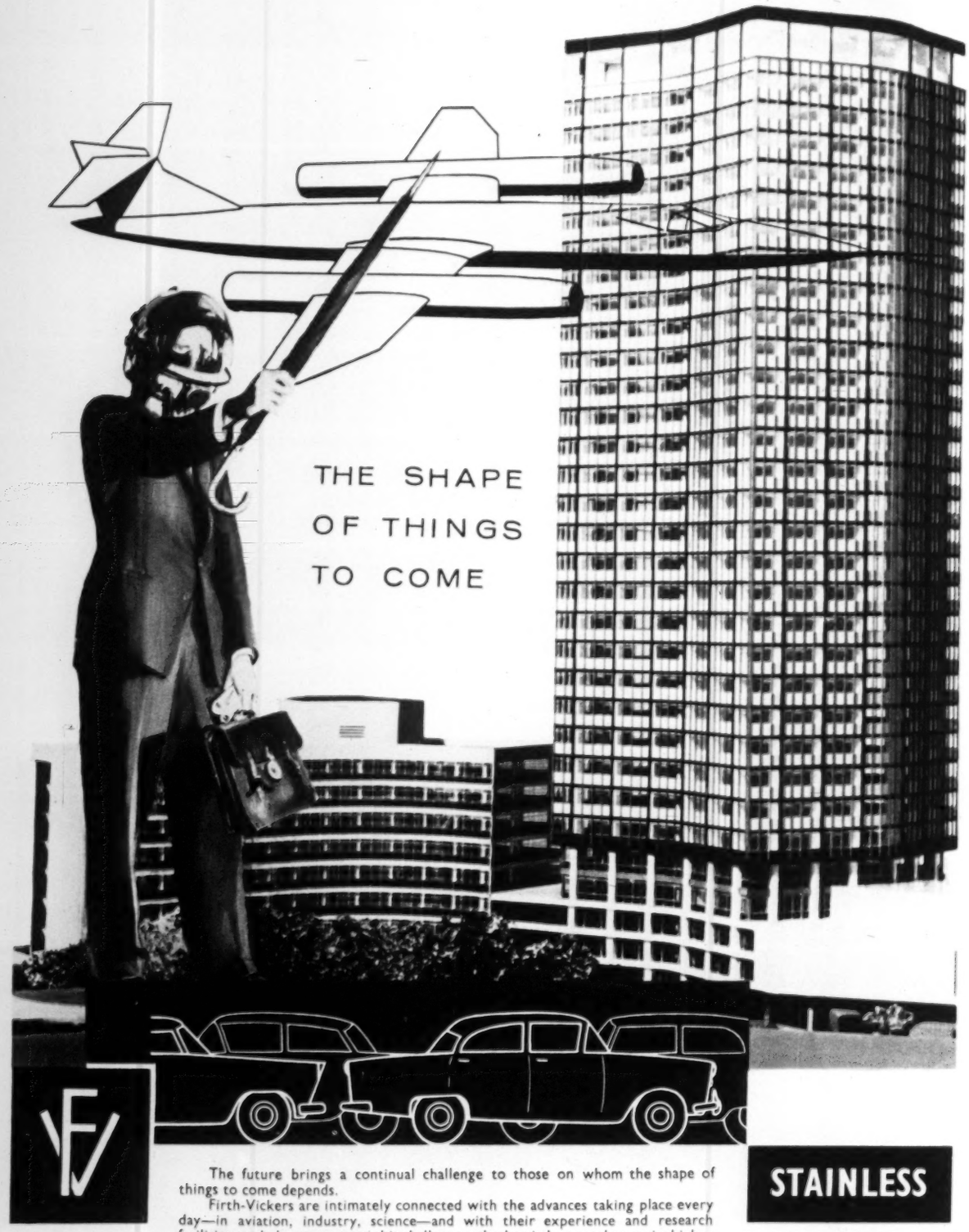

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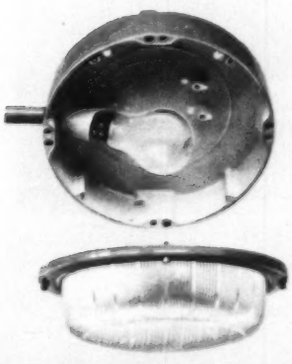

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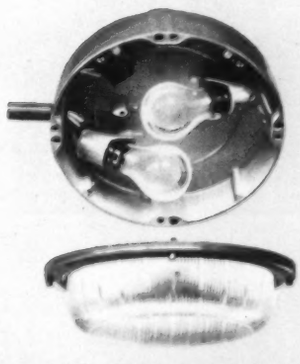

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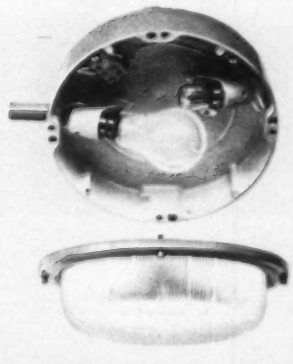

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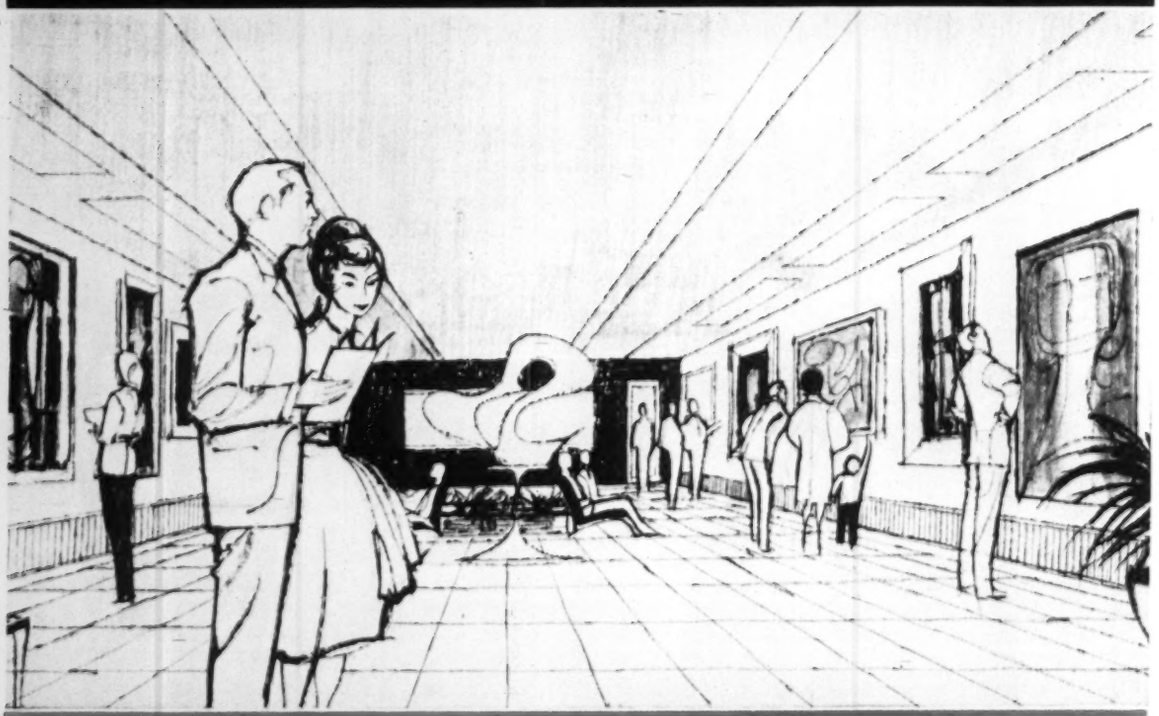

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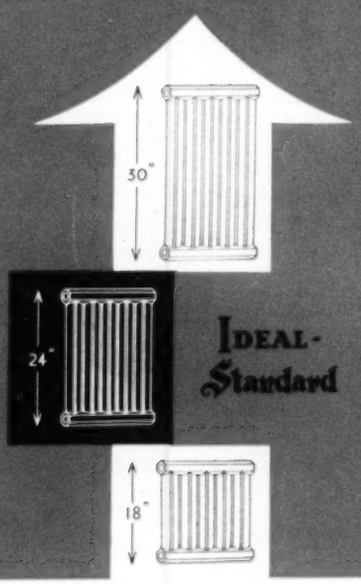

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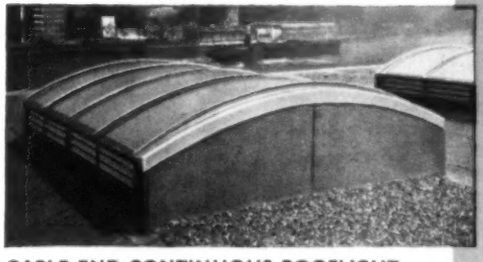

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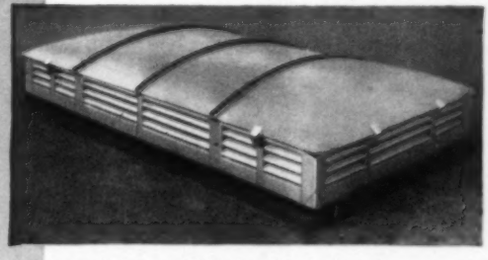

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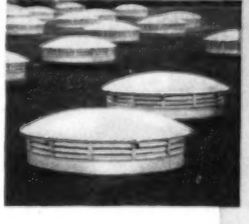

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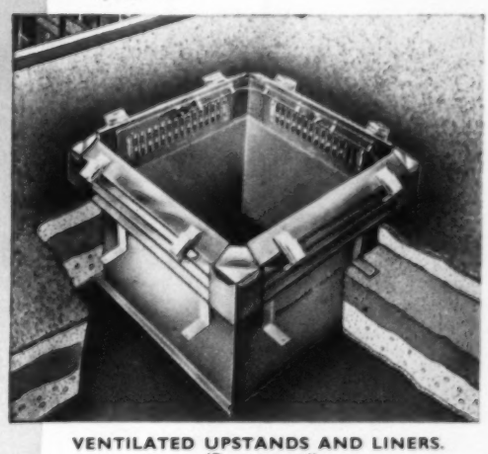

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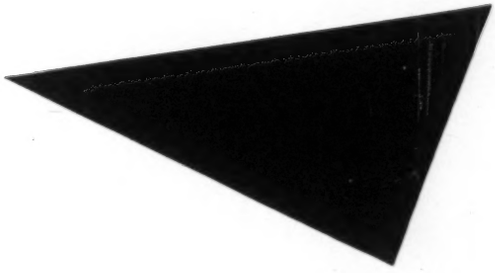

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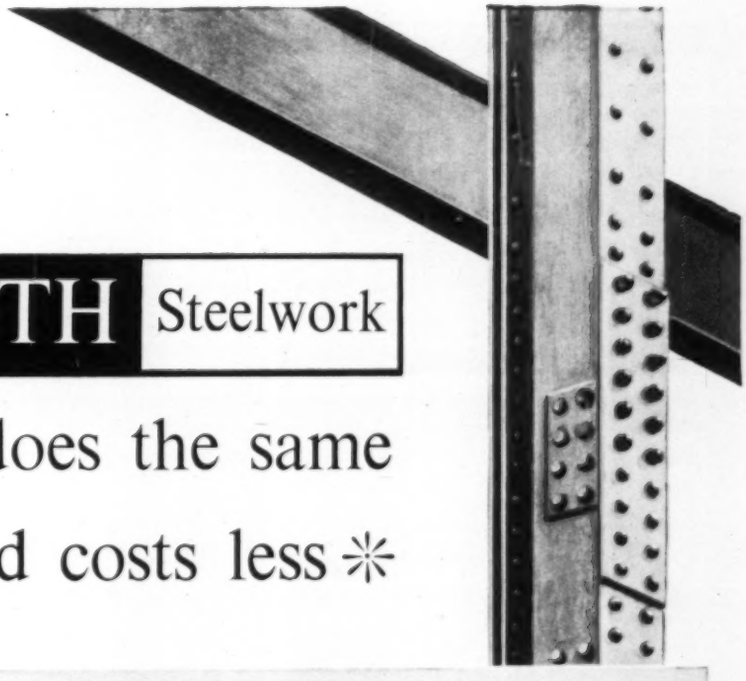

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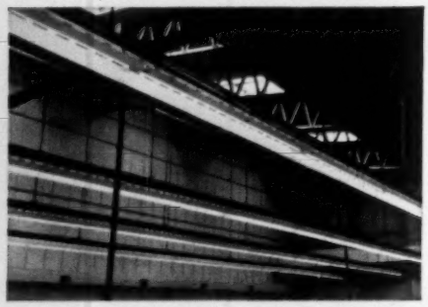

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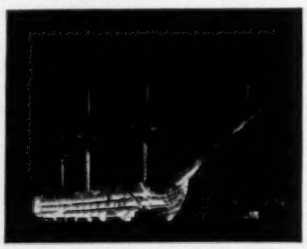

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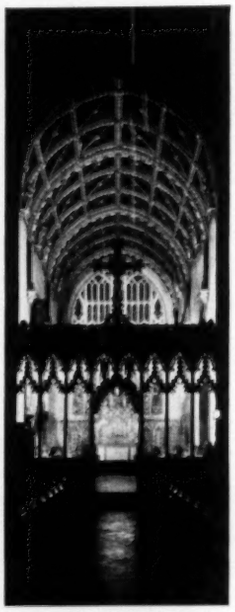

F

A Lighting trunking for Messrs. Avon Cosmetics Ltd. factory–Chartered Surveyors, Weatherall, Green & Smith, London, WC2

B Atlas Wafer fittings at Thorn House –Architect Basil Spence & Partners

C Royal Observatory, Herstmonceux –Architect Brian O'Rorke FRIBA

D Son et Lumière at HMS Victory, Portsmouth

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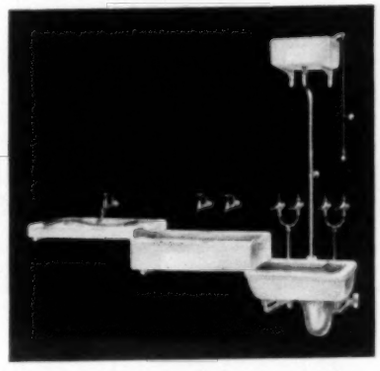

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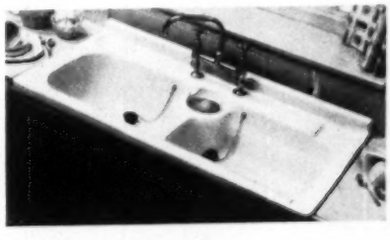

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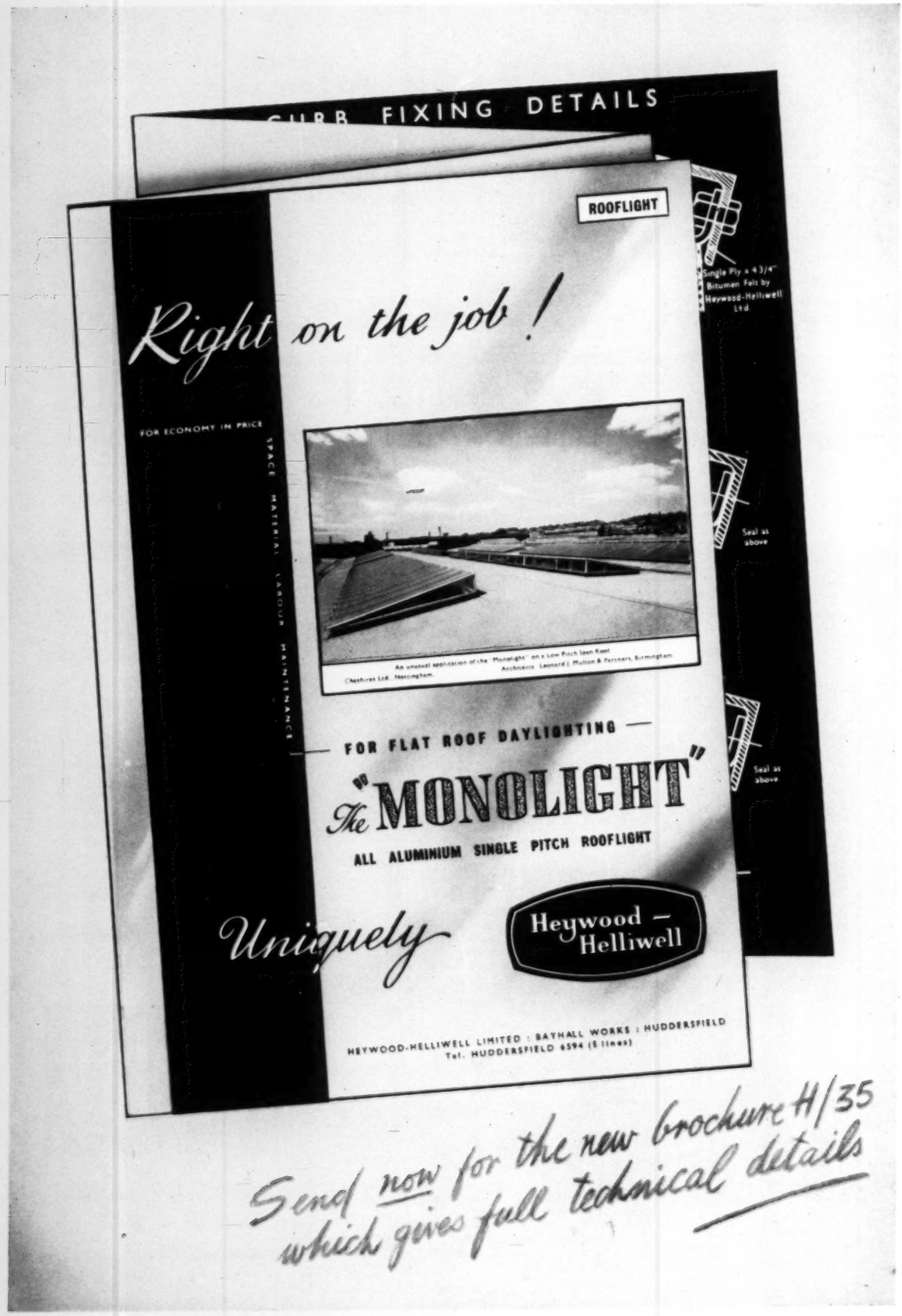
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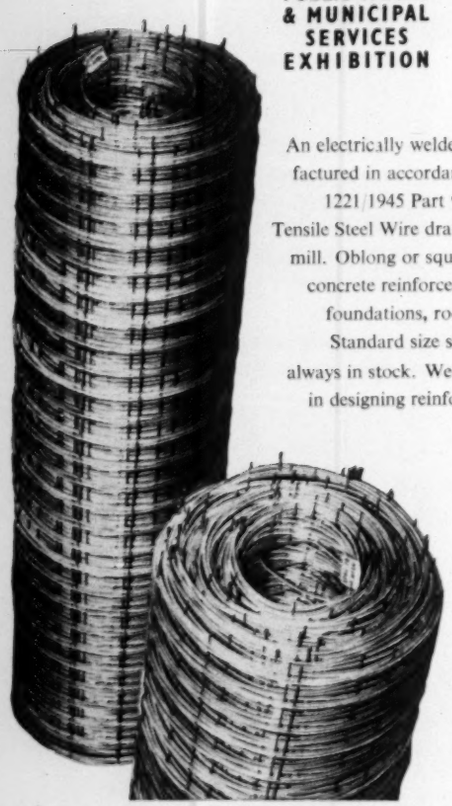

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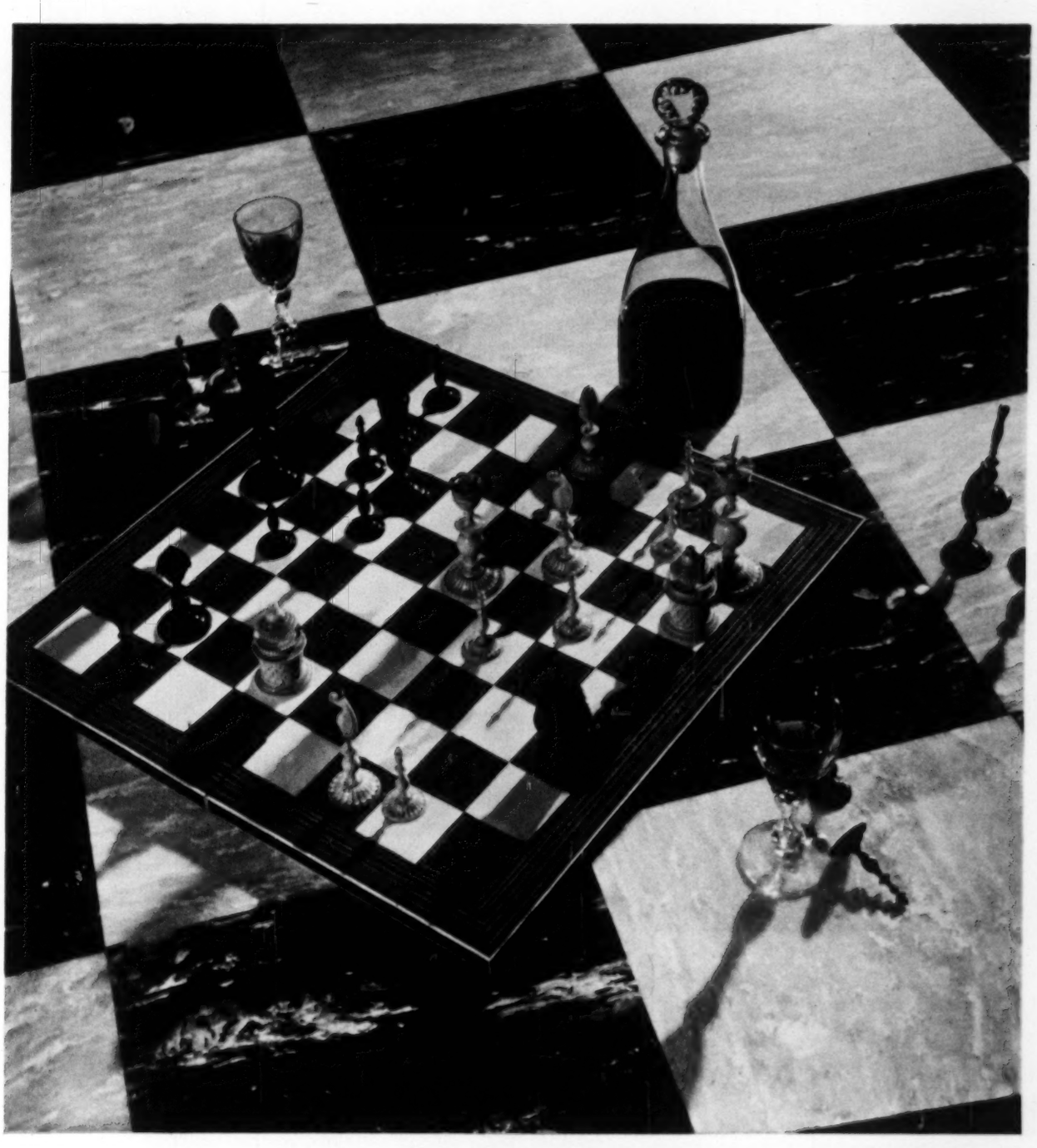

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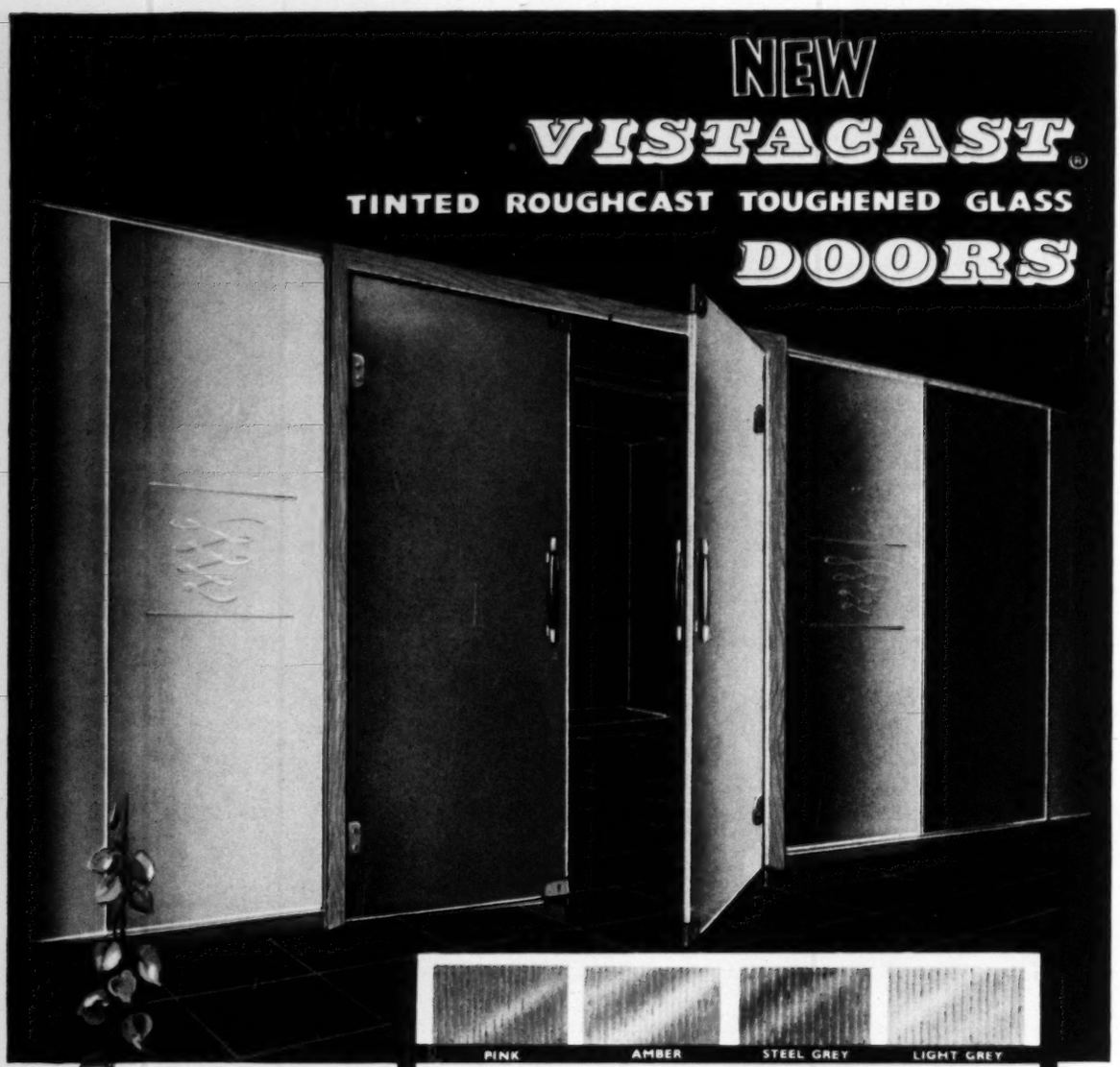

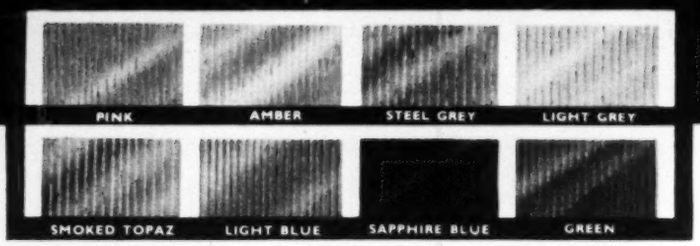

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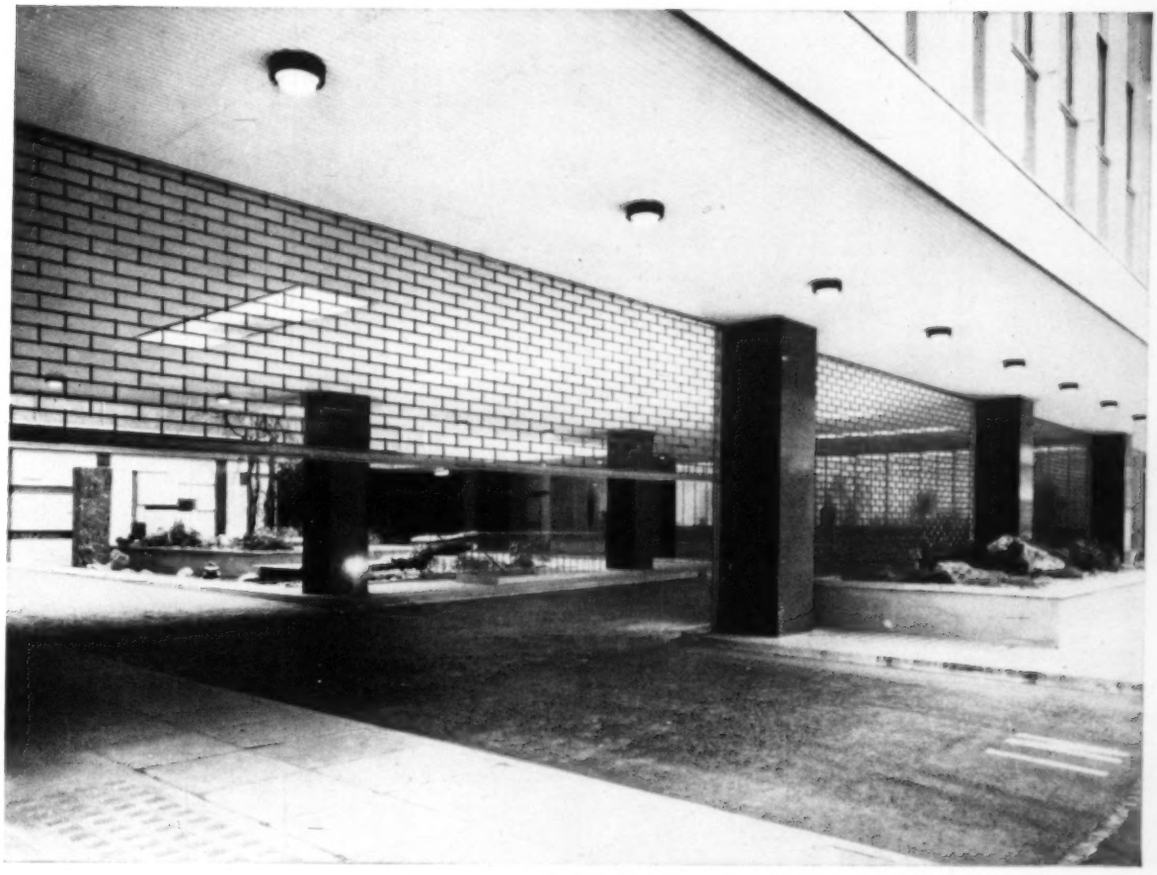

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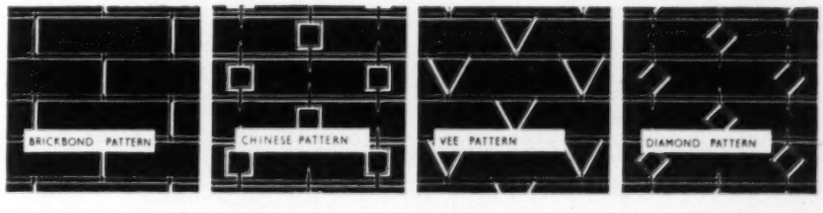

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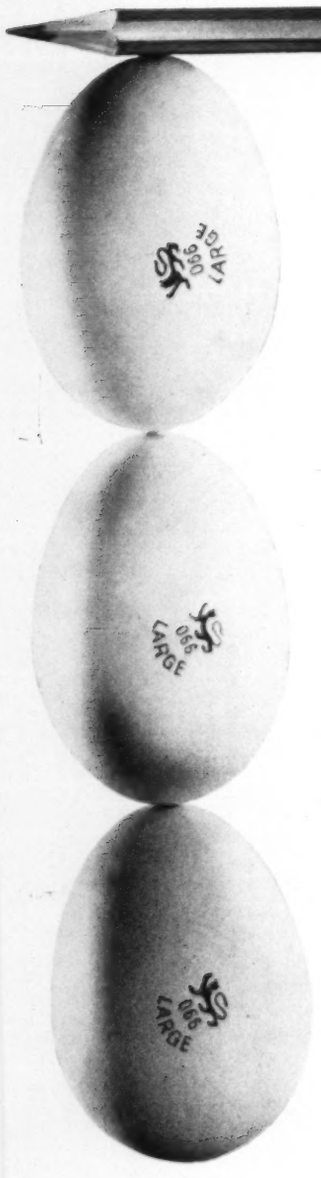

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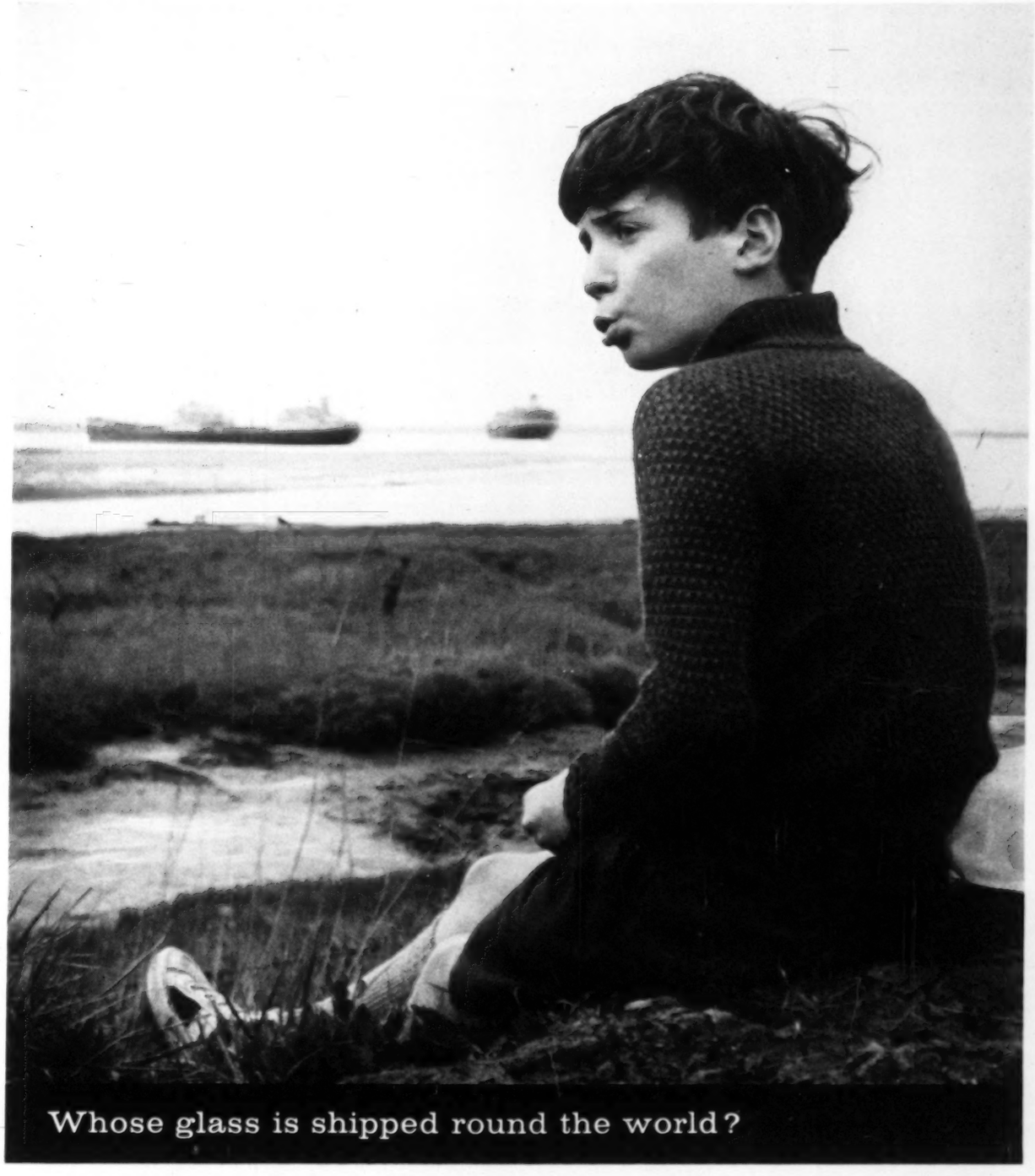

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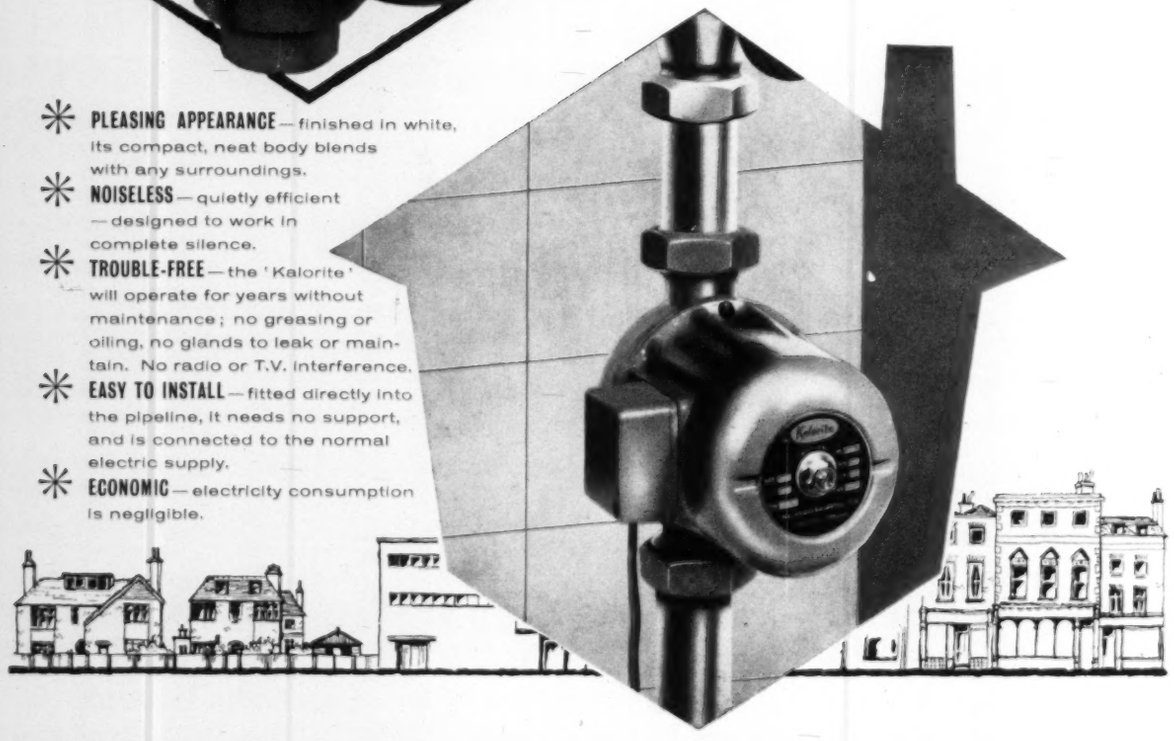

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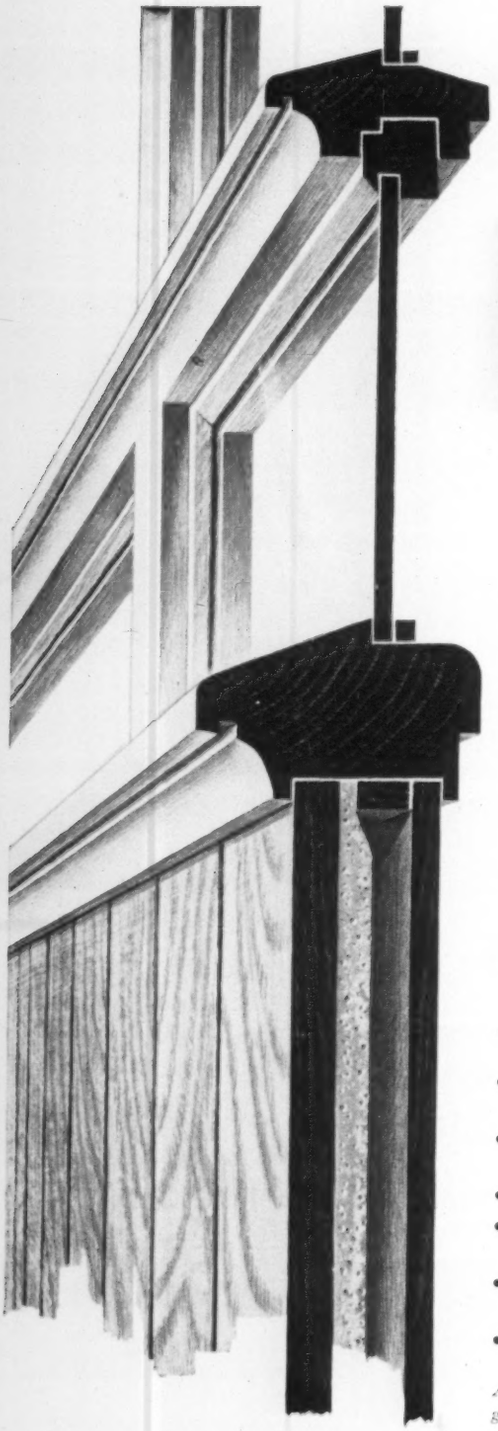

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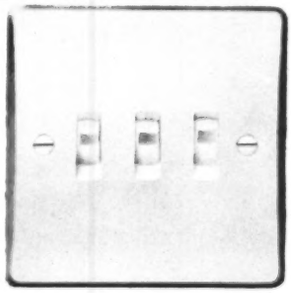

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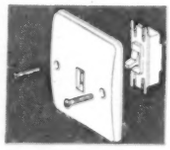

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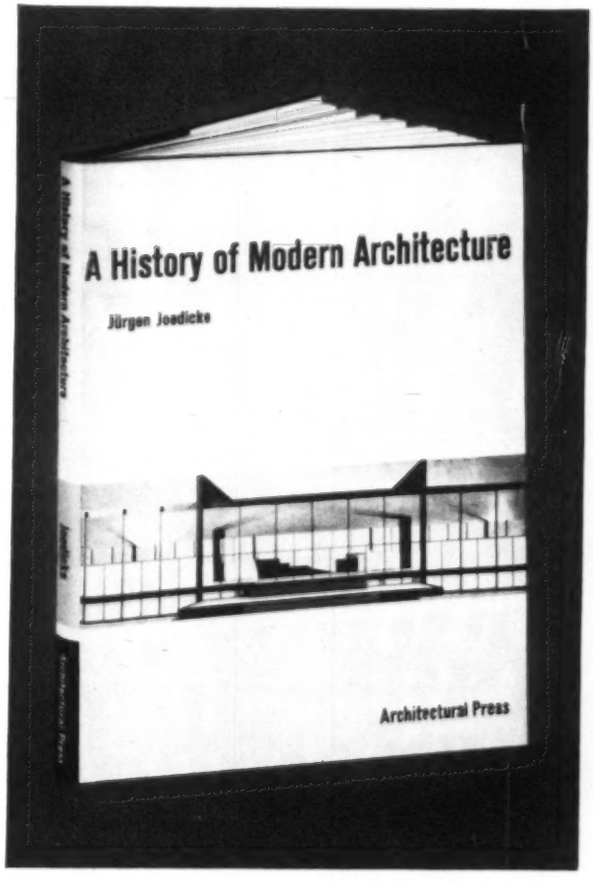

distinction between the age of the Pioneers, and the age of the Masters, so that the contributions of famous architects can be found where one would expect to find them. In addition to the dominating personalities of the movement, Professor Joedicke, who teaches at the celebrated Technische Hochschule in Stuttgart, also gives a full account of the part played by new structural materials and new spatial concepts in the creation of the new architecture, and also surveys the contributions made by the leading architectural countries of Europe and the Americas. He thus covers the field from Joseph Paxton to Felix Candela in time, from Helsinki to Rio de Janeiro and Los Angeles in space.

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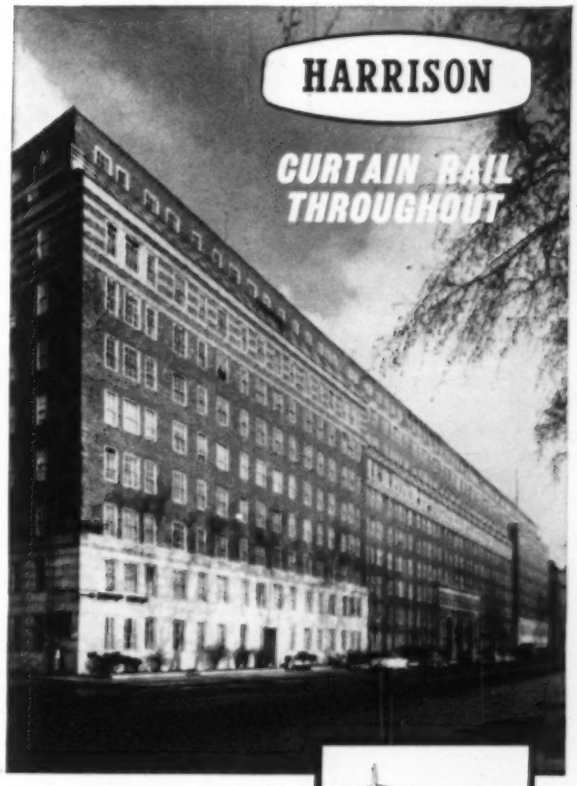

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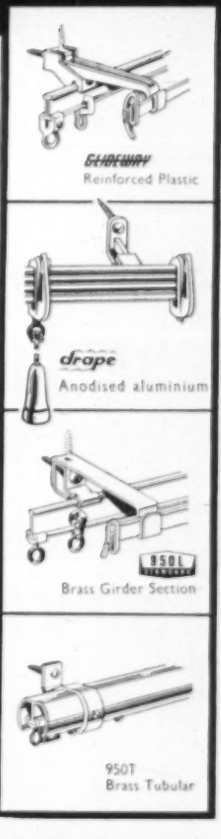

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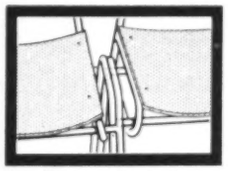

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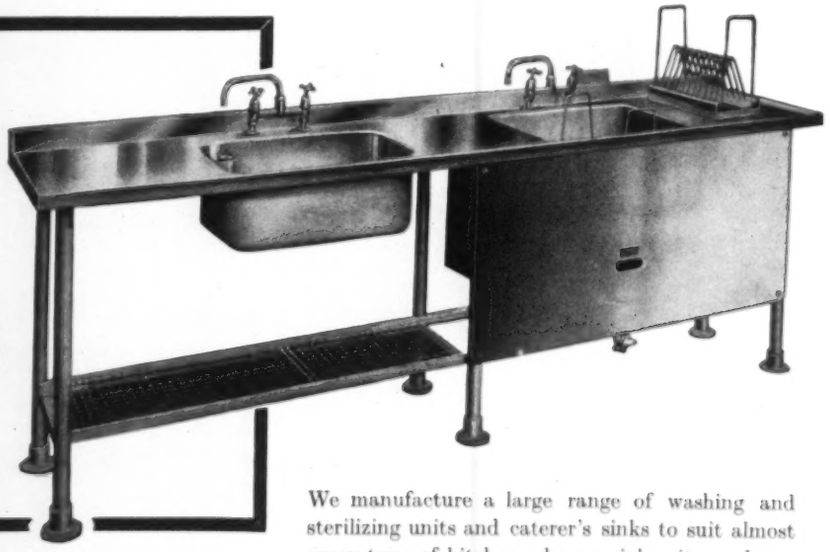

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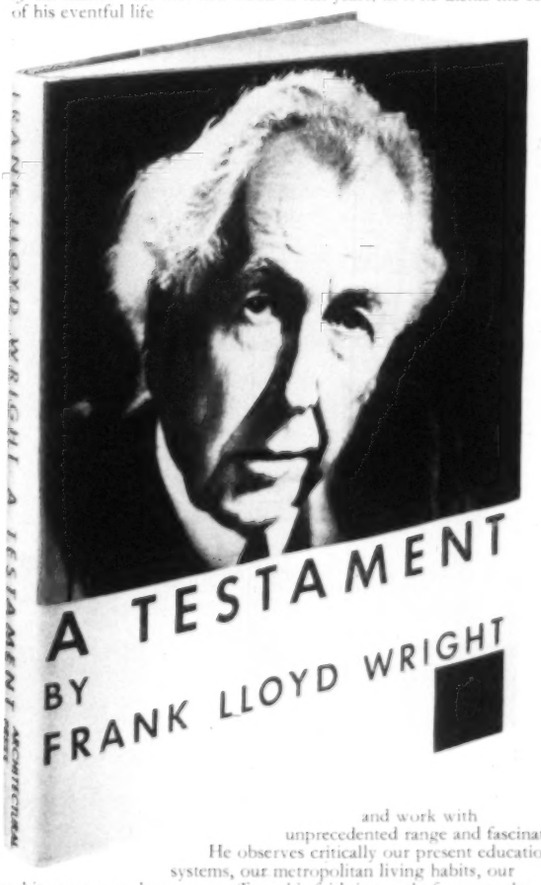

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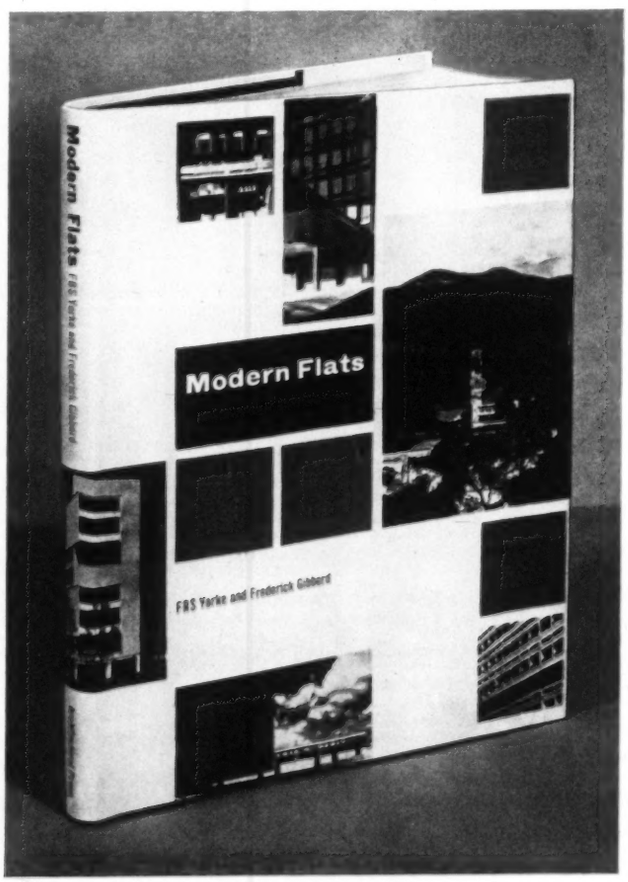

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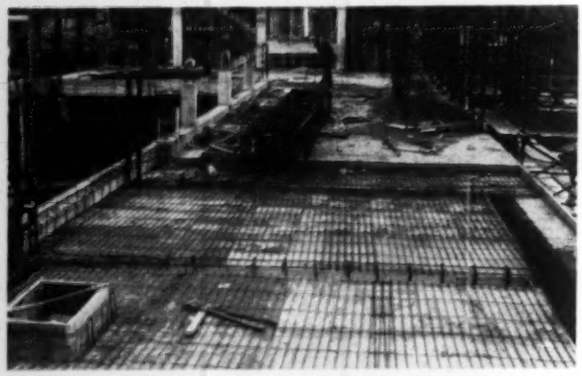

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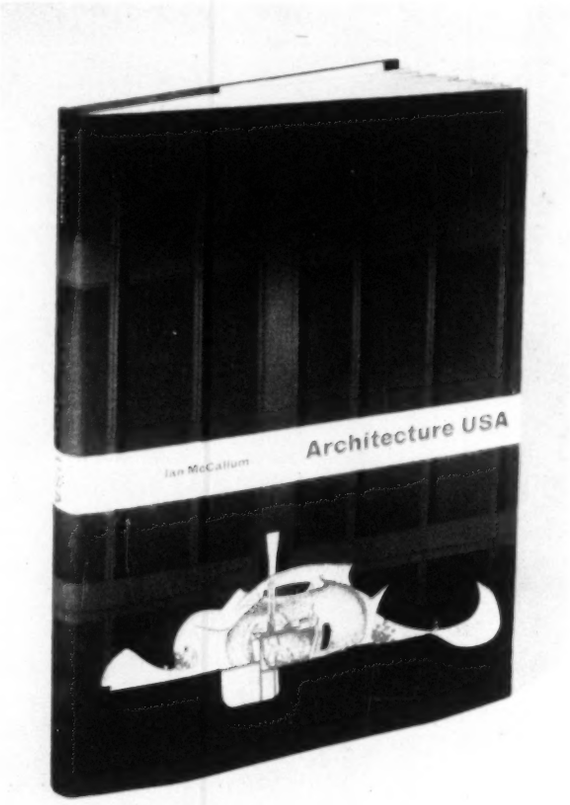

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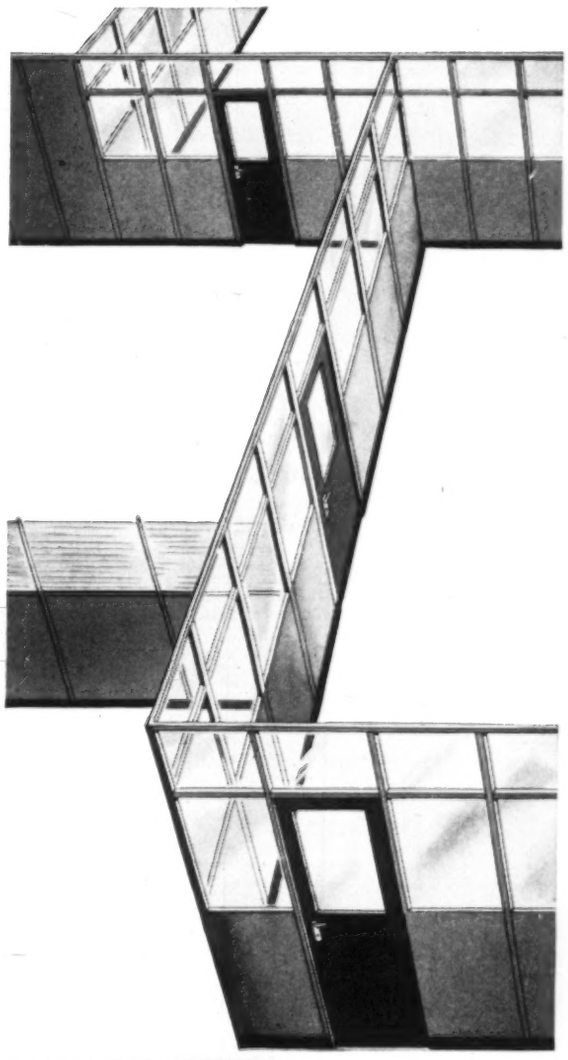

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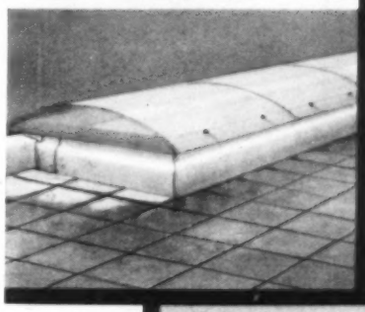

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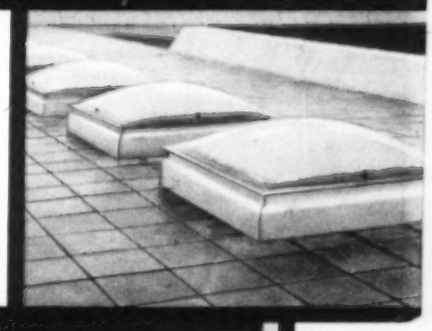

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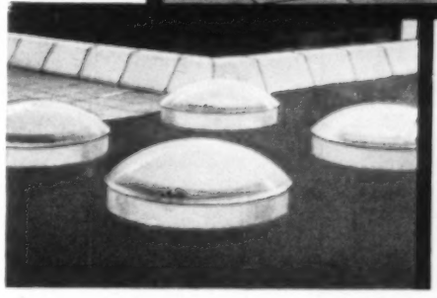

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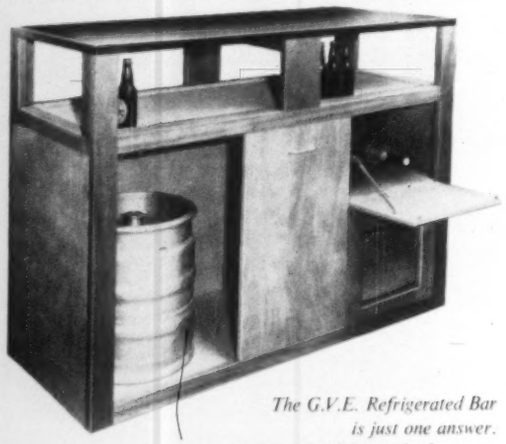

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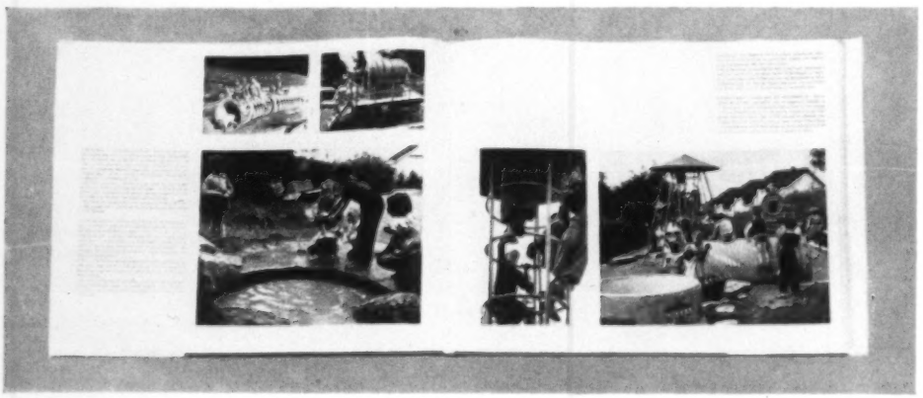

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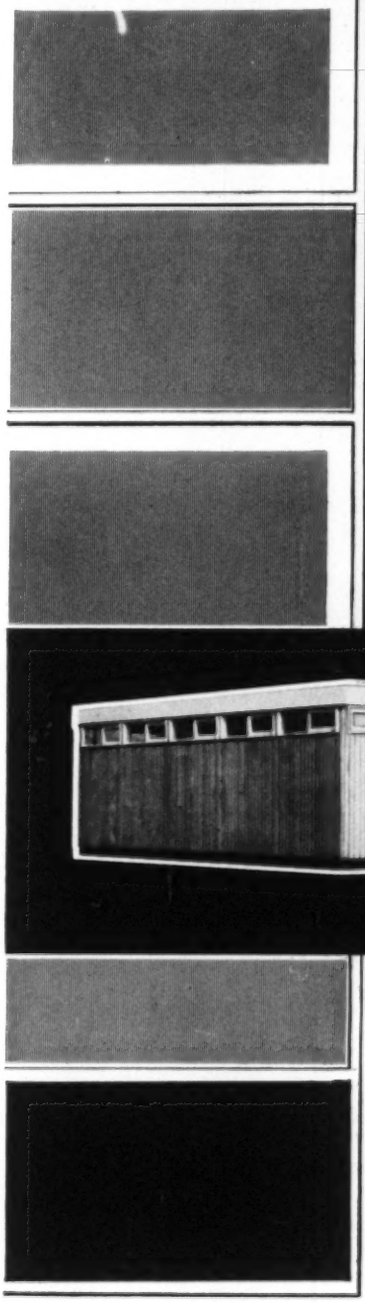

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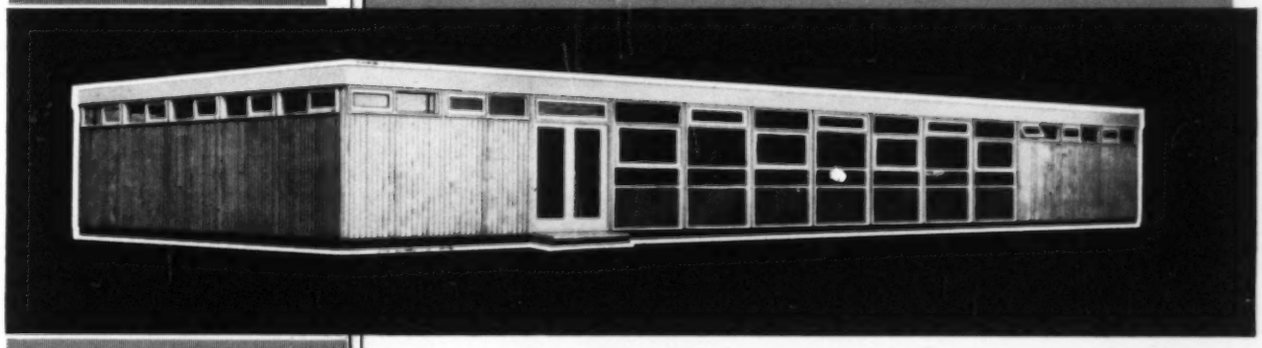

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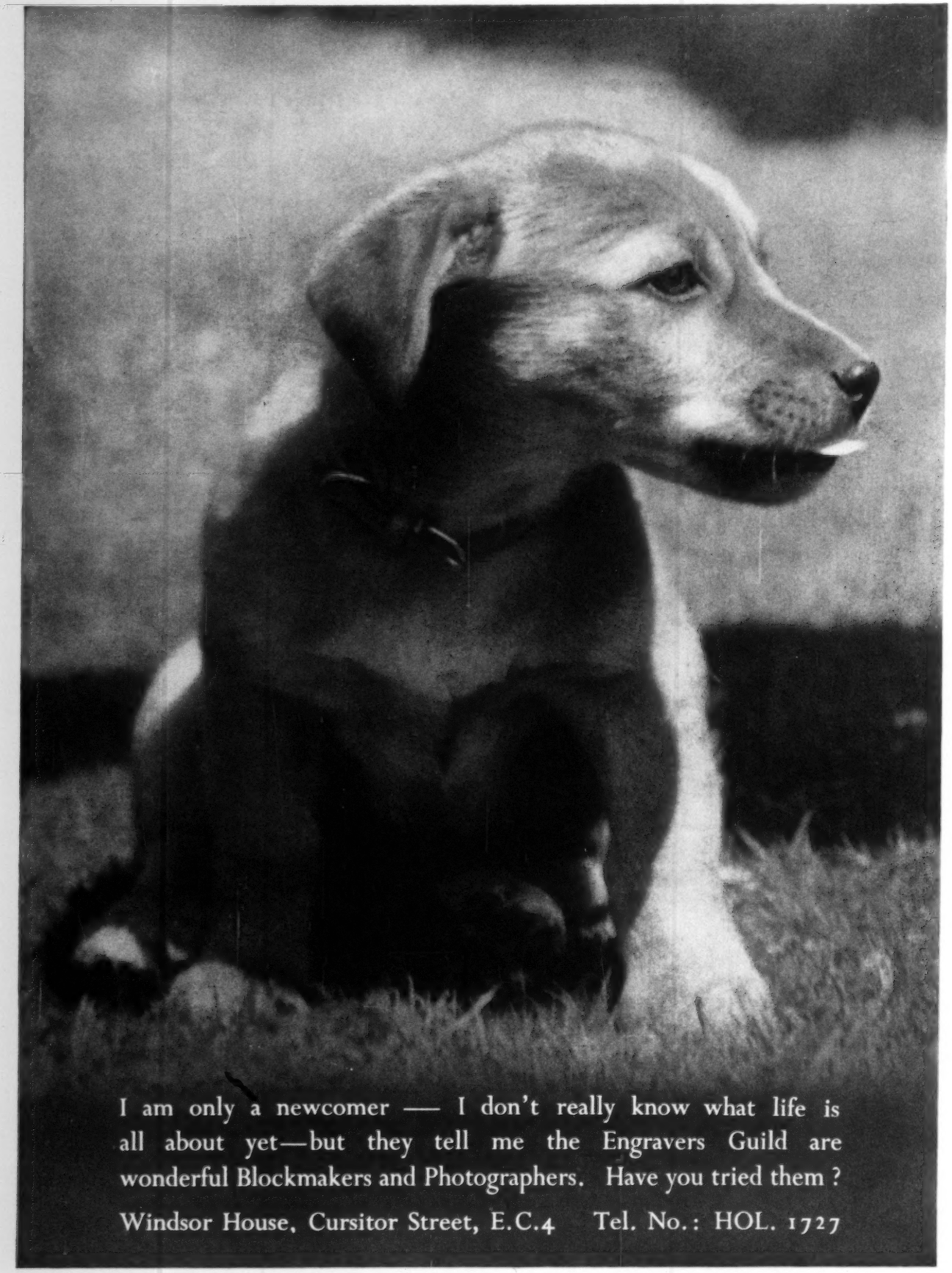
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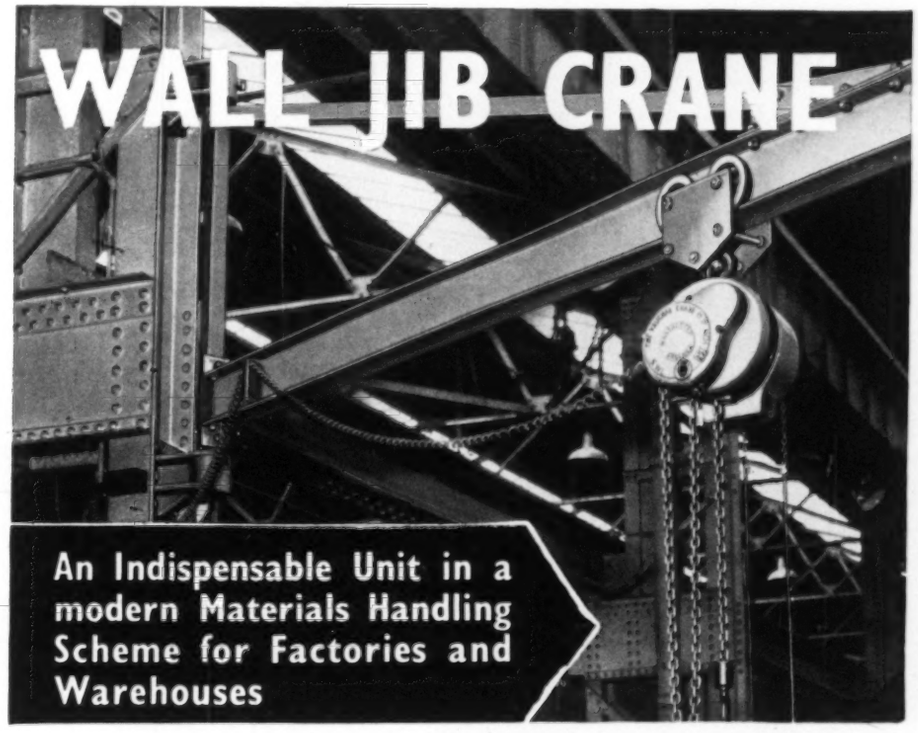

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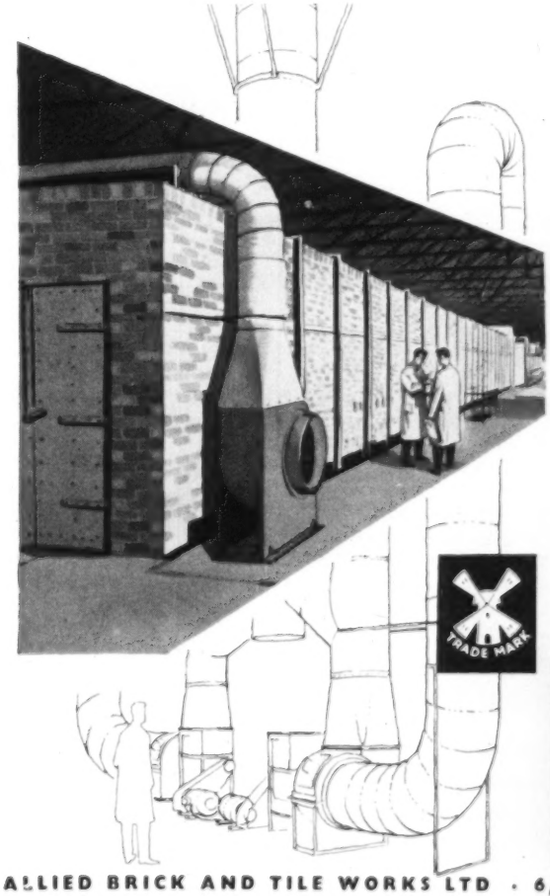

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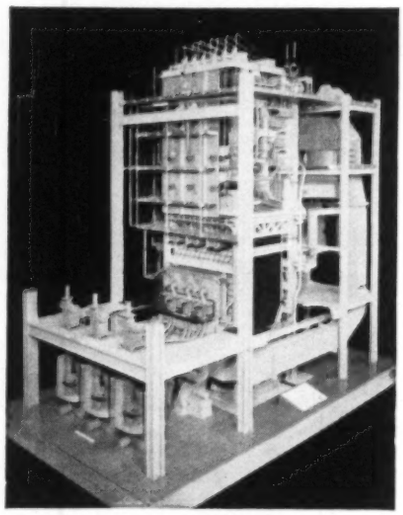

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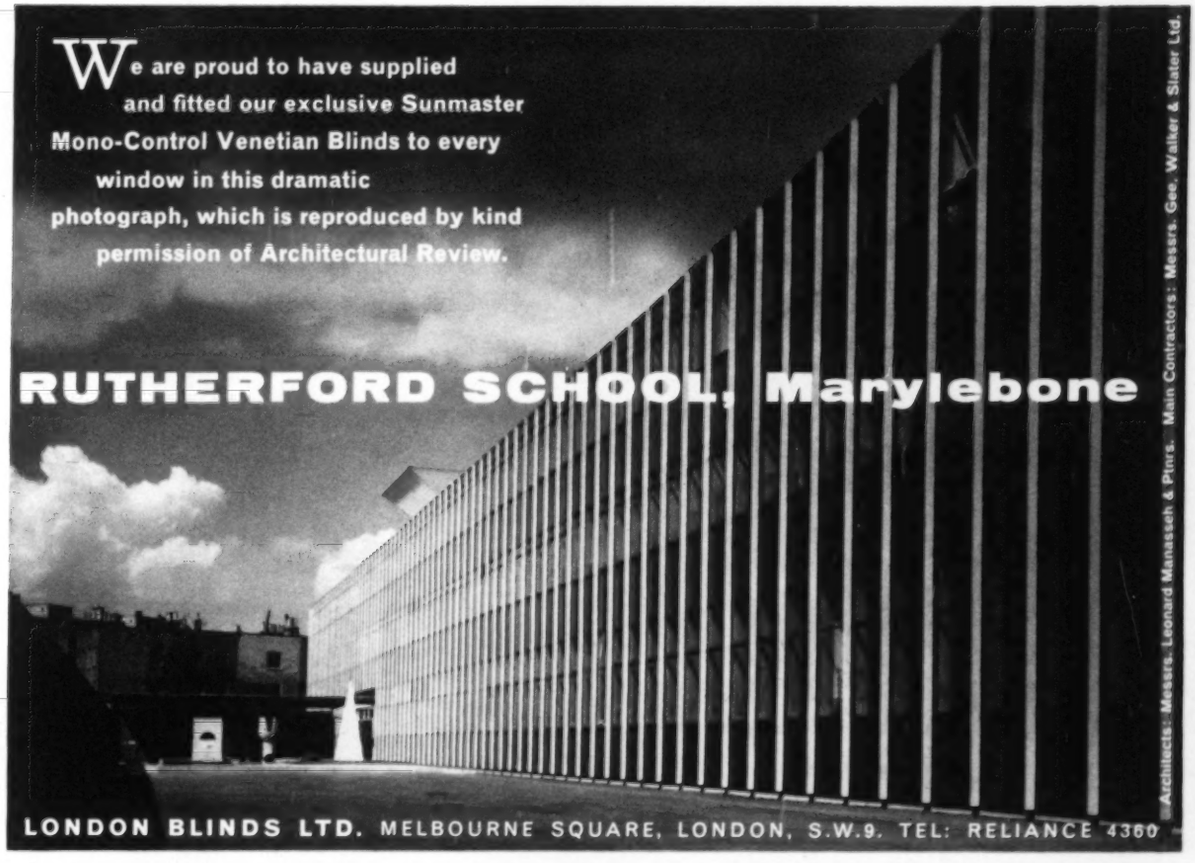
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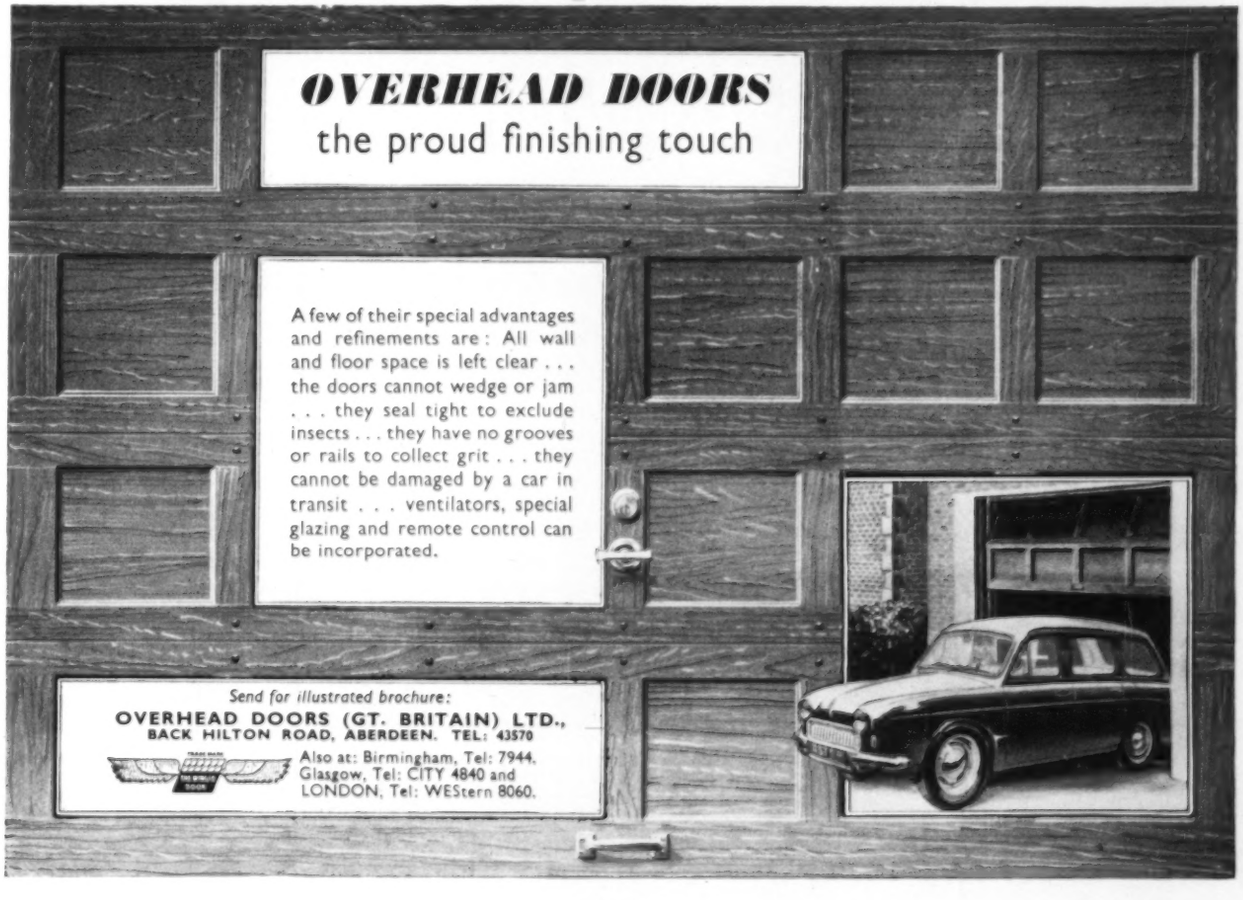
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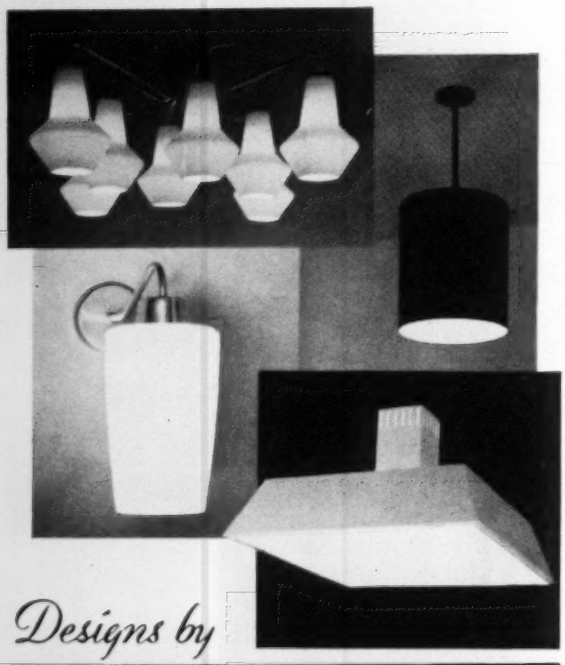

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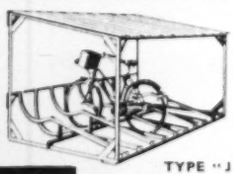

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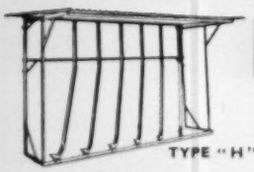

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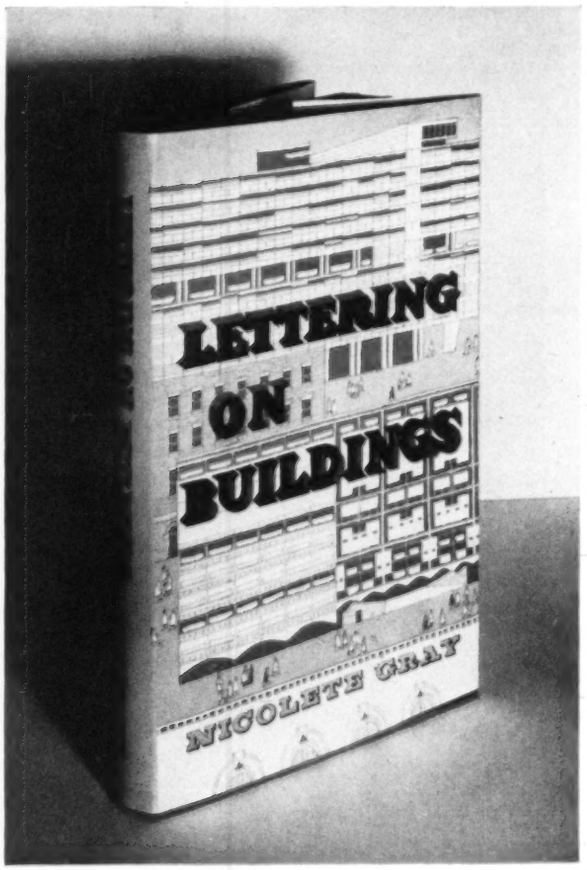

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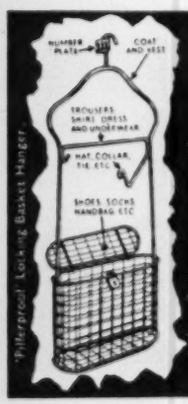

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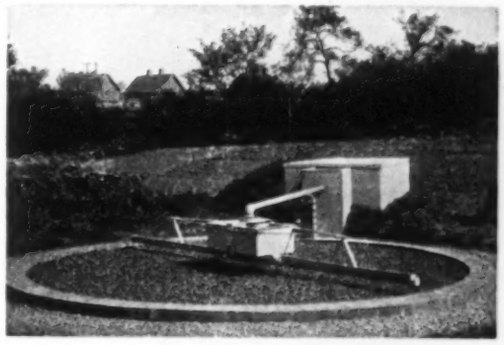

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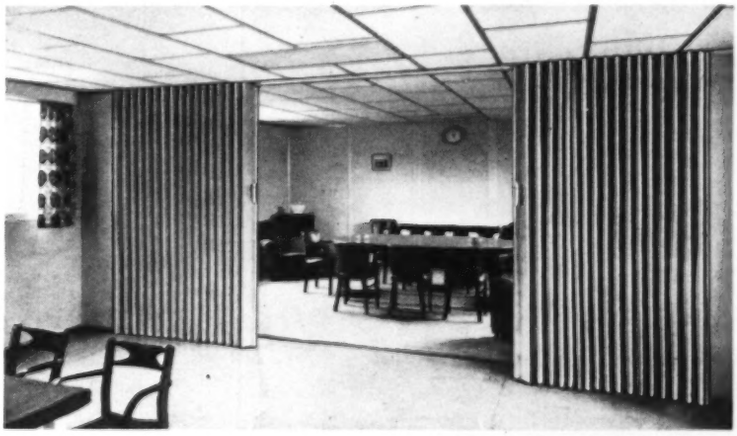

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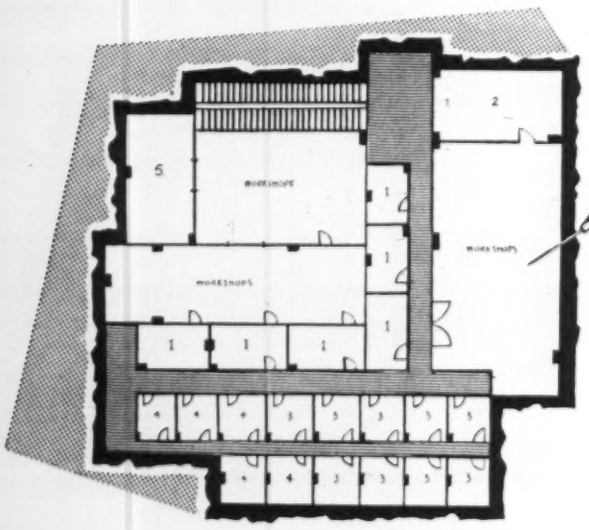

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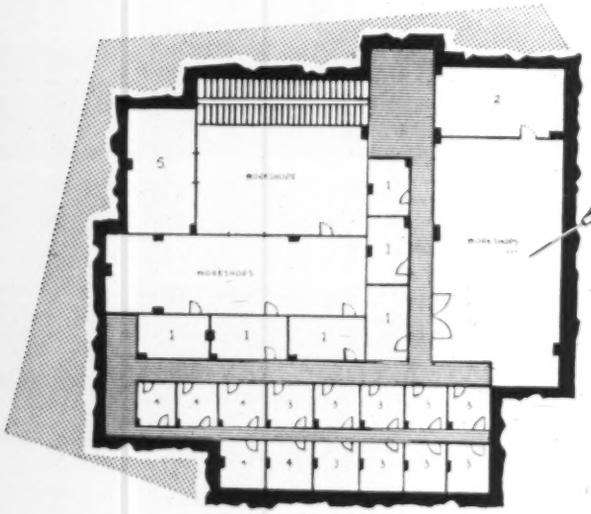

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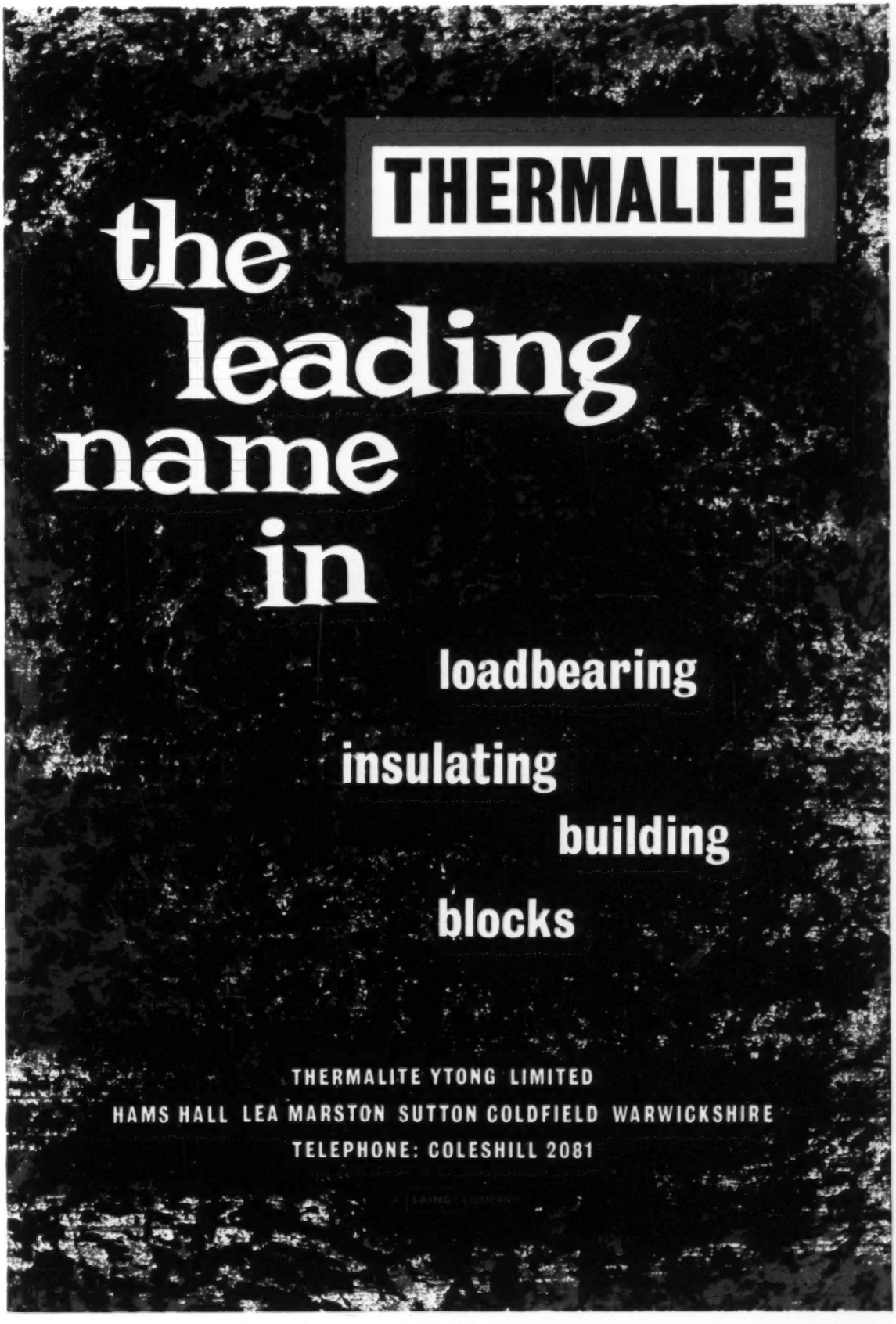

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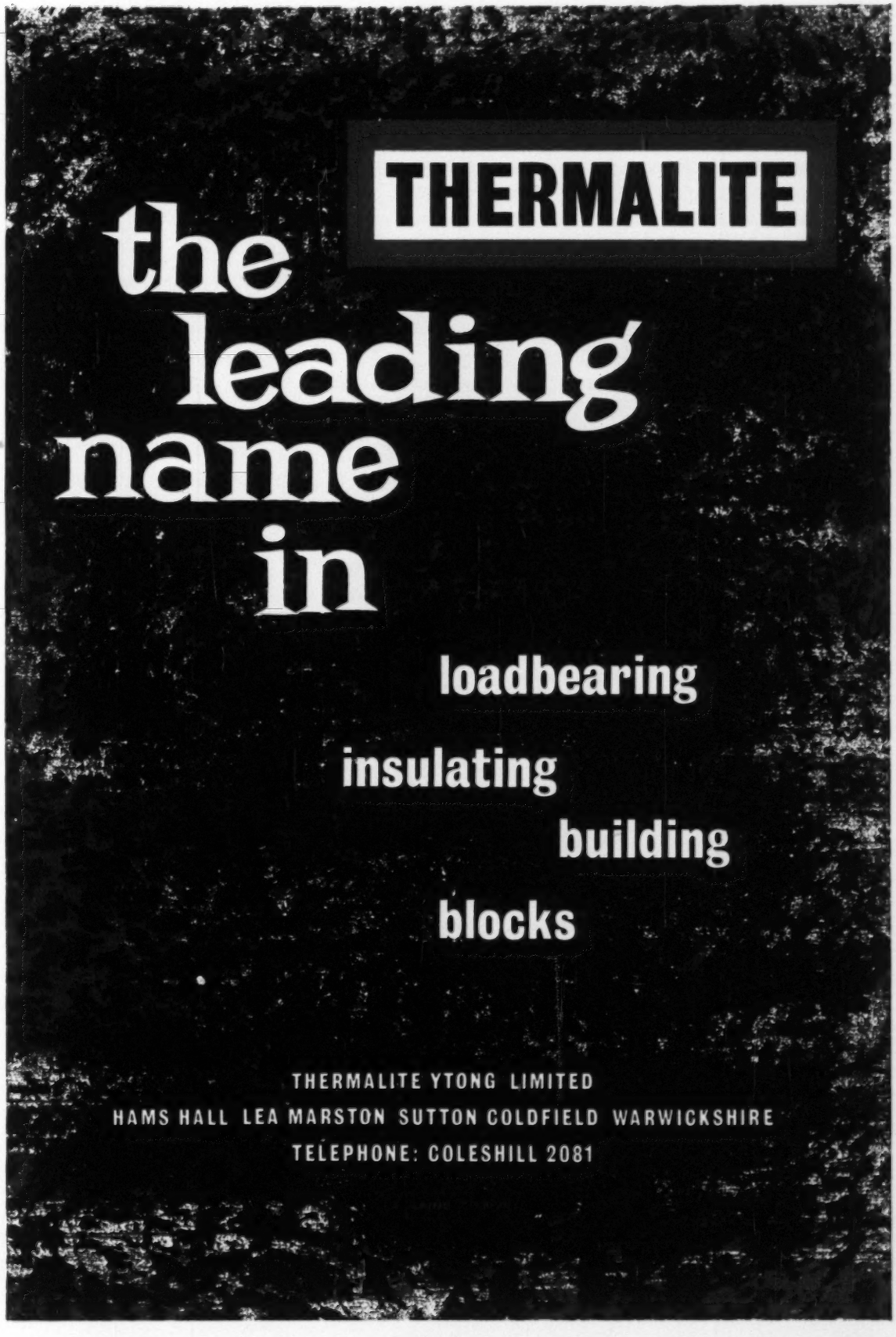

Printed in Great Britain for the Proprietors of "The Architects' Journal," of "The Architectural Review," and of "Specification" (The Architectural Press, Ltd.) 9-13, Queen Anne's Gate, Westminster, S.W.1, by Knapp, Drewett & Sons Ltd., by appointment to Her Majesty the Queen, Printers, Kingston-on-Thames. Editorial illustrations engraved by The Engravers Guild Ltd., Windsor House, 23/28, Cursitor Street, London, E.C.4.
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